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Vol. XII SEPTEMBER, 1922 No. 9

FEDERAL AID FOR THE PROTECTION OF MATERNITY AND INFANCY

GRACE ABBOTT

Chief, Children's Bureau, Washington, D. C.

THE reasons which led the Children's Bureau to advocate federal aid for the promotion of better maternal and infant care by the states are perhaps known to the readers of the JOURNAL. The historical setting is so important that at the risk of repetition, it is summarized here.

The Children's Bureau was created by act of Congress in 1912. Heading a long list of subjects which it is directed by its organic act to investigate is that of infant mortality. Because it was considered of fundamental importance, this subject was the first one to be investigated by the Children's Bureau. The initial study made in an industrial town in 1913 was, at the special direction of Congress, repeated in nine other industrial towns and cities including Baltimore, Md., and Gary, Ind. Studies of the care available to mothers and infants in typical rural communities of twelve states of the South, Middle West, and West were also made.

The coincidence of a high infant mortality rate with low earnings, poor housing, the employment of the mother outside the home and large families was indicated in all these studies. They also showed that there is great variation in the infant mortality rates, not only in different parts of the United States, but in different parts of the same state and the same city or town. These differences were found to be caused by different population elements, widely varying social and economic conditions, difference in appreciation of good prenatal and infant care, and the facilities available for such care.

Evidence of the methods used in successful efforts to reduce infant mortality was also assembled. The instruction of mothers through infant-welfare centers, public-health nurses, and popular bulletins as to the proper care of children, the value of breast-feeding, the importance of consulting a doctor upon the first evidence of disease, everywhere brought substantial decreases in deaths, especially from causes classified in the gastrointestinal and respiratory groups. But little progress was made or has since been made in reducing the deaths in early infancy, including deaths caused by premature birth, congenital debility, and injuries at birth. Thus, in the year 1915 the number of infant deaths during the first month of life in the Registration Area of the United States was more than five times that of the tenth, eleventh and twelfth months, and in 1920 it was still five times as great. Similarly, in the year 1915 the number of infant deaths during the first

week of life was eight times that in the fourth week, and in 1920 it was nine times as great. Consideration of the causes of infant mortality inevitably leads, therefore, to the question of the care mothers are receiving before, during, and after childbirth.

An analysis of the available statistical information with reference to deaths among mothers was published by the Bureau in 1917 and was the subject of much discussion. In a few places the possibility of reducing this death-rate about one-half through prenatal supervision in connection with prenatal clinics or maternity centers had been demonstrated.

With the evidence that, as Dr. Howard has pointed out, "the prevention and control of illness and death of mother and child are among the most neglected and potentially the most fruitful domains of public-health administration," some means for extending on a national scale the successful local work for better care for mothers and infants was obviously necessary.

In her annual report for 1917, Miss Julia Lathrop, in reporting on the Bureau's investigation of infant and maternal mortality, called attention to the method of coöperation between national and local government adopted by Great Britain in the so-called grants-in-aid for maternity and infant-welfare work and suggested that the United States should use the well-established principle of federal aid as a basis of national and state coöperation in reducing the unneccessary high death-rate among mothers and babies in this country. The best-known previously enacted laws of this general type were: the Morrill Act of 1862 providing for land-grant colleges; the Hatch Act of 1887 establishing agricultural experiment stations; the Smith-Lever Act of 1914 creating the agricultural extension service; the Good Roads Act of 1916 (extended in 1919, 1921, and 1922); and the Vocational Education Act of 1917.* For an almost innumerable number of objects Congress had granted to the states temporary subsidies from time to time. In view, then, of the overwhelming evidence of the need of promoting on a national scale the health of mothers and babies and the successful demonstration by a number of both public and private agencies in different parts of the country of what could be done through maternity and well-baby centers, it was but logical to resort to the method of state and federal coöperation which had been so frequently used for less important ends.

The Sheppard-Towner Act for the Promotion of the Welfare and Hygiene of Maternity and Infancy, which became a law November 23, 1921, is in all essentials the same as the plan for the "public protection of maternity and infancy" submitted by Miss Lathrop in her annual report for 1917. Briefly summarized, its most important provisions are as follows: (1) *Appropriation.* It authorizes an appropriation of $1,240,000 for a five-year period, of which not to exceed $50,000 may be expended by the Children's Bureau for administrative purposes and for the investigation of maternal and infant mortality; the balance to be divided among the states accepting the Act as follows: $5,000 unmatched to each state, and an additional $5,000 to each state if matched; the balance to be allotted among the several states on the basis of population, and granted if matched. (2) *Administration.* National administration of the Act is lodged with the Children's Bureau of the Department of Labor; local administration in the states is in the Child Hygiene or Child Welfare Division of the state agency of health, or where such a division does not exist, the agency designated by the state. (3) *Plan of Work.* The Act intends that the plan of work shall originate in the state and be carried out by the state. A Federal Board of Maternity and Infant Hygiene, composed of the chief of the

*The Industrial Rehabilitation Act has since been passed (1920).

Children's Bureau, the Surgeon General of the United States Public Health Service, and the United States Commissioner of Education, may approve or disapprove state plans, but the Act provides that the plans must be approved by the Federal Board if "reasonably appropriate and adequate to carry out its purposes."

As originally introduced, the Act provided that the funds were to be expended by the states for "provision of instruction in the hygiene of maternity and infancy through public-health nursing, consultation centers, and other suitable methods; and the provision of medical and nursing care for mothers and infants at home or at a hospital when necessary, especially in remote areas." These specific provisions do not appear in the Act as passed, and the only prohibitions are that no part of the funds is to be expended for the purchase, erection, or repair of any building or equipment, or for the purchase or rental of any buildings or lands, or for any maternity or infancy stipend, gratuity or pension. While the Act was passed November 23, 1921, the money was not made available until the following April. The second Deficiency Act, passed March 20, 1922, carried an appropriation of $490,000.00 for the balance of the fiscal year ending June 30, 1922, and the Appropriation Act for the Departments of Commerce and Labor for the fiscal year ending June 30, 1923, provides $1,240,000 for the purposes of the Maternity and Infant Hygiene Act. Some preliminary decisions and approval forms by the comptroller of the Treasury were necessary so that the first money was not paid to the states until May of 1922.

Up to date 42 states have accepted the terms of the Act—all except, Maine Massachusetts, Rhode Island, New York, Louisiana, and Washington. Eleven of these acceptances (New Hampshire, Delaware, New Jersey, Maryland, Virginia, South Carolina, Kentucky, Mississippi, Minnesota, Oregon and New Mexico) are by state legislatures and the remaining 31 by governors pending the next regular session of the legislature.

The amounts available to the states for the fiscal year ending June 30, 1922, and June 30, 1923, are as follows:

MAXIMUM AMOUNTS AVAILABLE TO THE STATES FOR THE FISCAL YEAR ENDING JUNE 30, 1922

State	Granted if matched Apportioned on Basis of Population	Total Including $240,000 Granted Outright ($5,000 to each State)
Total	$237,500.00	$477,500.00
Alabama	$ 5,297.56	$ 10,297.56
Arizona	753.88	5,753.88
Arkansas	3,953.03	8,953.03
California	7,731.12	12,731.12
Colorado	2,119.83	7,119.83
Connecticut	3,114.75	8,114.75
Delaware	503.10	5,503.10
Florida	2,184.90	7,184.90
Georgia	6,533.10	11,533.10
Idaho	974.30	5,974.30
Illinois	14,631.03	19,631.03
Indiana	6,611.07	11,611.07
Iowa	5,423.56	10,423.56
Kansas	3,991.51	8,991.51
Kentucky	5,452.00	10,452.00
Louisiana	4,057.50	9,057.50
Maine	1,732.66	6,732.66
Maryland	3,270.49	8,270.49
Massachusetts	8,691.06	13,691.06
Michigan	8,276.07	13,276.07
Minnesota	5,385.44	10,385.44
Mississippi	4,039.70	9,039.70
Missouri	7,679.67	12,679.67
Montana	1,238.31	6,238.31
Nebraska	2,924.66	7,924.66
Nevada	174.63	5,174.63
New Hampshire	999.61	5,999.61
New Jersey	7,119.83	12,119.83
New Mexico	812.96	5,812.96
New York	23,429.70	28,429.70
North Carolina	5,773.47	10,773.47
North Dakota	1,459.36	6,459.36
Ohio	12,993.41	17,993.41
Oklahoma	4,575.88	9,575.88
Oregon	1,767.35	6,767.35
Pennsylvania	19,672.69	24,672.69
Rhode Island	1,363.54	6,363.54
South Carolina	3,798.54	8,798.54
South Daokta	1,436.07	6,436.07
Tennessee	5,274.35	10,274.35
Texas	10,520.41	15,520.41
Utah	1,013.85	6,013.85
Vermont	795.09	5,795.09
Virginia	5,209.61	10,209.61
Washington	3,060.58	8,060.58
West Virginia	3,302.16	8,302.16
Wisconsin	5,938.04	10,938.04
Wyoming	438.57	5,438.57

MAXIMUM AMOUNT AVAILABLE TO THE STATES FOR THE FISCAL YEAR ENDING JUNE 30, 1923

State	Apportioned on basis of population	Granted if matched. Total (if matched)*	Grand Total†
Total	$710,000.00	$950,000.00	$1,190,000.00
Alabama	15,836.95	20,836.95	25,836.95
Arizona	2,253.71	7,253.71	12,253.71
Arkansas	11,817.51	16,817.51	21,817.51
California	23,112.01	28,112.01	33,112.01
Colorado	6,337.20	11,337.20	16,337.20
Connecticut	9,311.48	14,311.48	19,311.48
Delaware	1,504.01	6,504.01	11,504.01
Florida	6,531.72	11,531.72	16,531.72
Georgia	19,530.55	24,530.55	29,530.55
Idaho	2,912.66	7,912.66	12,912.66
Illinois	43,739.10	48,739.10	53,739.10
Indiana	19,763.62	24,763.62	29,763.62
Iowa	16,213.60	21,213.60	26,213.60
Kansas	11,932.52	16,932.52	21,932.52
Kentucky	16 298.64	21,298.64	26,298.64
Louisiana	12,129.80	17,129.80	22,129.80
Maine	5,179.77	10,179.77	15,179.77
Maryland	9,777.05	14,777.05	19,777.05
Massachusetts	25,981.70	30,981.70	35,981.70
Michigan	24,741.11	29,741.11	34,741.11
Minnesota	16,099.65	21,099.65	26,099.65
Mississippi	12,076.58	17,076.58	22,076.58
Missouri	22,958.19	27,958.19	32,958.19
Montana	3,701.91	8,701.91	13,701.91
Nebraska	8,743.21	13,743.21	18,743.21
Nevada	522.06	5,522.06	10,522.06
New Hampshire	2,988.31	7,988.31	12,988.31
New Jersey	21,284.55	26,284.55	31,284.55
New Mexico	2,430.33	7,430.33	12,430.33
New York	70,041.78	75,041.78	80,041.78
North Carolina	17,259.66	22,259.66	27,259.66
North Dakota	4,362.74	9,362.74	14,362.74
Ohio	38,843.46	43,843.46	48,843.46
Oklahoma	13,679.48	18,679.48	23,679.48
Oregon	5,283.46	10,283.46	15,283.46
Pennsylvania	58,810.99	63,810.99	68,810.99
Rhode Island	4,076.28	9,076.28	14,076.28
South Carolina	11,355.65	16,355.65	21,355.65
South Dakota	4,293.11	9,293.11	14,293.11
Tennessee	15,767.55	20,767.55	25,767.55
Texas	31,450.52	36,450.52	41,450.52
Utah	3,030.89	8,030.89	13,030.89
Vermont	2,376.90	7,376.90	12,376.90
Virginia	15,574.00	20,574.00	25,574.00
Washington	9,149.55	14,149.55	19,149.55
West Virginia	9,871.74	14,871.74	19,871.74
Wisconsin	17,751.62	22,751.62	27,751.62
Wyoming	1,311.12	6,311.12	11,311.12

*Includes $240,000 granted if matched ($5,000 to each state).

†Includes $240,000 granted outright ($5,000 to each state) in addition to amounts granted if matched.

Payments have been made to 38 states from 1922 funds, and to 27 states from 1923 funds. Of the 38 states that have received payments from 1922 funds, 22 matched their full allotment, 4 matched part of their allotment, and 12 accepted the $5,000 granted outright without matching. Of the 27 states that have received payments from 1923 funds, 12 matched their full allotment, 6 matched part of their allotment, and 9 accepted the $5,000 granted outright without matching.

The Federal Board of Maternity and Infant Hygiene met on April 18, 1922, elected the chief of the Children's Bureau chairman of the Board, and proceeded to consider the plans submitted by states accepting the Act. The Board has laid down no plan of work which a state must follow nor has it made approval of plans contingent on complying with certain conditions, each plan being considered on its merits.

The plans submitted by the states and approved by the Board vary greatly. The best planning for a state requires a correlation of the money available with the number and causes of deaths among mothers and babies in the different parts of the state and the available local facilities. Unfortunately, 18 of the states accepting the Act have not as yet sufficiently complete registration of births to be counted in the Birth Registration Area and 12 are not in the Death Registration Area. Obviously their plans cannot have the fact basis which is so desirable. Practically all these states are making the Sheppard-Towner Act the basis for a new effort to secure a new law or the enforcement of the one already enacted.

In some states the infant-welfare program is well started and the federal money can be used in the development of plans already tested by local experience, but in a far fewer number is the program for maternity care anything like so well developed; hence preliminary educational work in this field is generally necessary. Examples of plans on which the states are starting their work will make the value of the law clear.

One state, whose budget for 15 months with the federal funds amounts to $62,269.02, has selected two counties as training and demonstration centers in maternity and infant care, where special attention will be given to the development and standardization of plans of work. These training bases offer the following variety of problems: (1) Strictly city problems. (2) Small town

problems. (3) Problems connected with mining camps and industrial communities. (4) Rural problems associated with agricultural pursuits and involving isolation, poverty, and ignorance to a marked degree. In this state, inauguration of a maternity and infancy program in connection with the already established county health units will be possible in at least five additional counties. Efforts will be made to secure the adoption of a maternity and infancy program in the remaining 15 counties having organized county health units. In counties having no full-time health service, a general study of the racial elements of the population and the possibilities of local coöperation will be made, and campaigns to secure registration of all births, use of "drops" in the eyes of new-born babies, and reporting of cases of ophthalmia neonatorum will be made.

A program for another state, involving expenditure of approximately $176,967.36 for 15 months, provides for two field physicians, six supervising nurses, four full-time nurses and 80 nurses who will give half time to the maternity and infancy work. In this state special attention is to be given to the training and supervising of midwives. The number of prenatal centers in the state is to be greatly increased, as is the number of well-baby clinics.

Another state, which will have available $61,567.22 for a 15 months' program, has a fairly well-developed county organization for public-health work, and there is general local appreciation of the value of work for mothers and babies. In this state nurses are to be placed in counties already organized, who will devote themselves to maternity and infancy. Supervision of midwives, the number of whom is estimated at some 6,000, inspection of maternity hospitals, as well as conducting prenatal and child-hygiene centers, are included in the plans.

In another state which will have only the unmatched federal funds, $10,000, general educational work will be done from the central office, and two demonstrations, one in a town and one in a rural district, of the work of an infant welfare and prenatal center will be made.

One of the smaller Eastern states, with a well-developed child-hygiene program and a budget of $76,808.76, proposes to reduce the maternal mortality by (1) instruction of mothers through prenatal clinics, (2) investigation of all puerperal deaths attended by midwives, (3) supervision of midwives, and (4) coöperation with hospitals. The infant mortality rate will be reached through prenatal care offered the mothers and the instruction of mothers in infant care. This state will have a staff of 44 nurses, enough to make possible a visit to all new-born babies, and the follow-up work for the "Baby-Keep-Well Stations" which are being developed, and the licensing and supervision of boarding homes. Two social workers will give special attention to the problem of preventing unnecessary separation of mothers and babies.

In contrast, a large Western state which has only the unmatched federal funds, plans general educational work as to the needs and possibilities of an infant and maternal hygiene program, will make its first survey of the state's problems—geographic distribution of maternal and infant deaths, causes, available local facilities, etc.—and will employ the school nurses of the state during the summer months for infant welfare work.

A state in the Middle West plans regular monthly conferences at a series of maternity centers that will be opened throughout the state; a Child Welfare Special will visit six communities, holding children's health conferences at stated intervals; institutes will be held to instruct women who will act as "mother's helpers" in the care of the home and other children during and after the mother's confinement; and Little Mother's Classes will be organized in the schools.

Any public-health work is, shall we say, at least three-fourths educational. The widespread discussion of the Sheppard-Towner Act has already done much to acquaint women and legislators with the importance of scientific care for themselves and their babies. Thus New York, Massachusetts, and Maine, although not accepting federal assistance, have made their first appropriations for the promotion of the hygiene of maternity, as a result of discussion of the Sheppard-Towner Act. Whether considered separately or in relation to other states or nations, every state must face the fact that there is a general demand that whatever the source or character of the opposition, the large and preventable loss of life among mothers and babies must be reduced. But the value of the work is not limited to the saving of life.

All the examinations of cross-sections of the population made in connection with pre-school clinics, school medical inspection, medical certification of children for work permits, examinations of all the men in connection with the draft, show substantially the same high percentage of physical subnormality. Care of the mother and the child from birth are the foundation on which a national program must be built. Subsequent work is remedial, not preventive.

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REPORT OF THE COMMITTEE ON MEDICAL SERVICE OF THE STATE AND PROVINCIAL HEALTH AUTHORITIES OF NORTH AMERICA

Read before the Annual Conference of State and Provincial Health Authorities, Washington, D. C., May 15-16, 1922.

SINCE the last report of your Committee, developments have taken place in the field of medical practice and medical education, some of which make for distinct progress and others for retrogression. In the latter class quackery continues to extend its field of activity, sanctioned by official approval. In some states quacks are not restricted to the practice of a particular cult, but have been boldly licensed to practice general medicine. On the other hand, a number of highly important judicial decisions have been handed down, broadly defining the practice of medicine and upholding the right of boards of licensure to set minimum standards of professional education for all those who desire to practice on the human body. Here and there persons have been convicted of practicing medicine without a license, but their number is so small compared with the great number of malefactors who should be so convicted as to constitute little or no deterrent against the innumerable breaches of the Medical Practice Act.

Your Committee has previously expressed to this body the belief that the various cults are patronized largely for the reason that the laity, demanding some kind of medical care and treatment, and, being unable to discriminate, will continue to consult unqualified persons until such time as they are supplied with those who are qualified by training and experience to furnish advice of real value. In other words, who will practice the art of medicine. The many factors which have contributed to the gradual disappearance of the general practitioner have been thoroughly discussed and are now fairly well agreed upon. Your Committee will, therefore, confine its report to but one such factor, namely, modern medical education.

The question as to whether methods of medical education are meeting the de-

mands of modern practice must always be a matter of deep concern to health officials who are interested only indirectly in medicine as a career, but very directly in the contribution which the recent medical graduate is able and willing to make to the cause of public health, which is synonymous with that of preventive medicine. At the last annual Congress on Medical Education, Licensure, Public Health, and Hospitals, held at Chicago, a very broad discussion by those present served to bring out the practically unanimous opinion that there is something radically wrong with the present-day methods of medical education, in which opinion we who have ample opportunity to appraise the finished product of the medical school are heartily in accord. The modern graduate in medicine is taught a little of everything known, suspected, or hoped for by medical educators, except only how to think. For this he is given little or no time or any encouragement, with the result that in many instances he leaves the medical school with a brain filled with uncorrelated facts whose relationship he may never have time or opportunity to discover, or only after long experience, largely at the expense of those upon whom he practices. He is too often a mere compendium of medical terms rather than a man of well-rounded character and knowledge standing squarely on his feet and willing at all times to make the mental effort necessary to solve a difficult medical problem and not cast the burden of solution upon one or more specialists. Many graduates, in despair of mastering general medical knowledge, the complexity of which has been exaggerated by a state of mental indigestion, sooner or later, with little or no preparation, join the ever-increasing hosts of specialists. As a basic remedy for what may be called asymmetrical medical education, Dr. Ray Lyman Wilbur, of California, at the Chicago conference suggested that the central corps of medical training must include anatomy, physiology, chemistry, bacteriology, pathology, pharmacology, clinical and laboratory medicine, including pediatrics and mental diseases, clinical and laboratory surgery, obstetrics and gynecology, hygiene and public health. He believes that there is no need to include any of the so-called specialties, except in an elementary way, if the foregoing subjects are adequately taught, and that the professors of medicine and surgery can readily bring the main essential facts of every specialty into their routine teaching. The student can be left time enough for optional work in his four years, so that he can enter any chosen special field for additional technical training. The specialties taught as they are at present belong outside the undergraduate medical curriculum. They can be included in the medical curriculum when they are taught by men who can range over the body instead of having their vision limited largely to body orifices. Such men can come in and form part of the teaching staff of any one of the three great divisions of clinical medicine. Your Committee believes that the opinions expressed by Dr. Wilbur, from which the foregoing is an extract, are well worthy of consideration by this body. He seems to have placed his finger squarely on one of the fundamental sore spots in medical education, namely, the undue emphasis given to instruction by pure specialists without any instruction as to the relationship which the pathologic conditions included in a specialty bear to abnormal conditions in the body as a whole.

The importance of training in preventive medicine is being generally recognized, and ways and means of accomplishing it have received an immense impetus during the past year. It is self-evident that official health work can not proceed beyond a certain limit unless the general practitioner has been taught to think and act in terms of preventive

medicine, and thus do his part in the prevention and control of disease. The time is fast approaching when the intelligent citizen will demand instruction by his physician as to how he may keep well, and not simply treatment for actual illness. This is a field which has been woefully neglected by most of our medical schools, while the older graduates have not yet awakened to its importance, not only to their patients and communities but to themselves professionally. Preventive medicine is at present left largely in the hands of health officials, insurance companies, and industrial organizations, while the practicing physician is excluded from the field even of personal hygiene, because he has not been taught to think in terms of prevention rather than diagnosis and cure.

This fact has been well stated by Dr. Goldwater of New York in a recent communication to the *Journal of the American Medical Association*, in which he states: "The space allotted to hygiene in the various aspects of health conservation in the present medical curriculum is almost negligible. Passing lightly over these subjects, the student is conducted all too quickly to the clinic and the postmortem room, and when finally in the hope of rounding out his practical training he enters the hospital as an interne, his mind is firmly set toward the more dramatic phases of disease and injury. In the hospital fully half the time and attention of the interne is claimed by major surgery, a useful, indispensable and life-saving art, but one which if carefully appraised will probably be found to embrace from one thirtieth to one fiftieth of the potential usefulness of medical science broadly conceived and strategically organized and applied." Dr. Goldwater pleads for increased emphasis on hygiene in the present curriculum and for a fundamental reconstruction of the whole scheme of medical education with a view to the presentation in logical order of (1) the sciences underlying medicine; (2) anatomy and physiology; (3) the science and art of health conservation; and (4) the diagnosis and treatment of disease. The multiplication and expansion of schools of public health, however useful or desirable, will not meet the requirement.

At the recent conference called by the Surgeon General of the Public Health Service in this city to discuss the future of public health in the United States, somewhat divergent views were held by those present as to the best means of training the future sanitarian, and very decided differences of opinion were expressed as to what knowledge the sanitarian would be required to possess.

While believing that future administrative health officials will be required by public opinion to possess a greater amount of technical knowledge of matters directly and indirectly bearing on public health, your Committee is obliged to take issue with those who visualize the supersanitarian of the future, he who shall be not only an efficient administrative officer but technically trained in every subject which bears on public-health work. There can be no question that the competent administrator should possess a general and sympathetic knowledge of vital statistics, public-health education, epidemiology, medical diagnosis—especially of infectious diseases,—serology, pediatrics, obstetrics, bacteriology, and even sociology and economics, but that he should be required to become actually proficient in all of these subjects before being qualified to take office is very much to be doubted. No one man can be expected to compass the entire field, but an administrator should have sufficient knowledge of all these subjects in order to supervise and direct the work of the divisions, bureaus, or individuals having directly to do with each of them.

It is the opinion of your Committee that the present number of schools of public health, together with the general medical schools whose curricula so

reorganized and correlated as to emphasize the teaching of preventive medicine and hygiene, will for some time to come supply all the material which can be absorbed and adequately compensated by states, counties, local communities and industrial organizations, and that the greatest of all public-health schools—the school of experience—with its flexible curriculum, will to the end receive the graduates of all other institutions and continue to separate the chaff from the wheat. The faculty of this great school consists of the general public. Its motto is "Get results." Entrants in order to be accepted must possess integrity and strength of character, be capable of applying previously acquired theory to actual conditions with the least amount of friction; possess and display medical statesmanship and tact, knowledge of human nature, sympathy with ignorance, human frailty, and suffering; and above all be firmly grounded in common sense. Upon such soil alone will the seeds of technical public-health training be worth the planting.

MATTHIAS NICOLL, JR., M. D., *Chairman.*
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W. S. RANKIN, M. D.

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The Human Origin of Communicable Disease.—An outbreak of typhoid fever in a well-conducted orphanage of 54 children illustrates the persistence of old-fashioned ideas regarding the unhealthfulness of places. A. B., an intelligent, prosperous farmer living in the outskirts of a small city in New Jersey, sold his farm in December, 1921, and moved into New York state because his old farm was in a valley on a small stream where the land was low and the drainage bad, and he had come to believe the location unhealthful. A. B. said that he had had typhoid fever in the fall of 1919 and that his two daughters came down with it during 1920, and his son developed it in the fall of 1921. All had been treated in a hospital in the city near his home and before discharge each had been pronounced free from typhoid bacilli after examination of their excretions. Yet the man was allowed to think that the soil was the cause of the sickness in his family, and apparently the possibility that he himself might be the cause of the sickness of his children was never suggested to him.

The farm which Mr. B. bought produced a portion of the milk for the orphanage. He began to handle the milk on December 26, 1921. An attendant at the orphanage and two child inmates developed typhoid between January 19 and 30, 1922. All had drunk the milk from A. B.'s farm and no other source of infection could be found. Mr. B. and his family readily consented to an examination of their excretions, and Mr. B. was found to be a carrier of typhoid bacilli. When the cases appeared the milk from this dairy was discontinued, and he at once sold his cows and said he would not engage in the milk business again, but that he would take up general farming.

Here was a man who not only infected six persons with typhoid fever, but also put himself and his family to the great inconvenience and expense of moving to a new locality because he had not been taught the simple facts that unhealthfulness of the air, or soil, or water is practically always due to direct human pollution, and that with few exceptions every case of human communicable disease has a direct ancestry of previous human cases.—*Health News*, Albany, N. Y., March, 1922.

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THE NATIONAL RESEARCH COUNCIL

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IN order that you may understand what the National Research Council is, it is necessary to go back some years. In 1863, during the Civil War, the government of the United States became conscious for the first time, I think, any government ever did become conscious, of the fact that war could not be carried on without scientific advice and scientific knowledge. So, in 1863, the Congress of the United States chartered the National Academy of Sciences—the only scientific body chartered by Congress in this country.

The National Academy of Sciences corresponds to the Royal Society of England and to the French Académie des Sciences. In the charter of the National Academy of Sciences it was stated that one of the chief functions would be to advise the President and Congress on scientific matters. From time to time since 1863 the government, either through its legislative branch or its executive head, has called upon the National Academy of Sciences for advice. This was done when the decision was made between Panama and the Nicaraguan route for the canal; and it has been done several times in addition.

In March, 1916, President Wilson asked the National Academy of Sciences to appoint a committee to advise him on scientific matters which might arise in case of an emergency. The National Academy of Sciences appointed a committee, which assembled in New York on the 20th of September, 1916, for the purpose of advising the President in case of an emergency. It was necessary to get the information and advice of that committee, and in all my life I have never had so interesting a time.

It was found early in the fall of 1916 that there was not enough digitalis in this country to run a small hospital for six months. We knew that digitalis grows wild in Oregon and Washington, but it is a different species from that from which the drug we had used up to that time had been made. It was *Digitalis flava*, while the digitalis which had been used in the preparation of the drug was *Digitalis purpurea*. So in the fall of 1916 boy scouts were enlisted, and they gathered tons of digitalis in Washington and Oregon. It was also learned that the University of Minnesota had a small botanical garden of medicinal plants, and they were asked to put in acres of digitalis in the spring of 1917, which the University did. By the time war began we had enough digitalis to supply the world, and the digitalis which was raised at the University of Minnesota and was made into the drug was *Digitalis flava*, instead of *purpurea*. And it was better digitalis than that which the Germans had been supplying us.

There was not a surgical needle made in the United States at that time. The committee appointed by the National Academy of Sciences got together men who had made needles of any kind and all kinds. A man representing one of the sewing-machine companies said, "I never saw a needle of that kind, but if you will get me a sample we will make them." By the time the war began that company was turning out needles by the bushel.

I mention these things to show you that, so far as the scientific men of the country were concerned, we did not enter the war unprepared, or at least we were partially prepared. I should say in this connection that the American Medical Association, the American College of Surgeons, and some other organizations had got together in the spring of 1916 and by December of that year the Surgeon General of the Army had on his desk the name of every man of military age in the medical profession of this country and what, in the opinion of state committees, was his special line of work, that is, what he was good for. In this way the medical profession of the United

States set an example and furnished a larger proportion of its members to the service, without hesitancy, than any other profession in the country.

This committee appointed by the National Academy of Sciences in 1916 functioned during the war as the National Research Council, trying to help the government in all of its departments with its advice. To mention one of these things: We were told that we must have ear-protectors. In the fall of 1916 Gordon Wilson, of Chicago, made an effective protector. There were many others who were interested in making ear-protectors; but when we really got into war and the French and English officers came over and found that we were putting out an improved ear-protector they said, "The protectors now in use are no good; they are all right to show, but they are no good because the man on the battlefield needs his keenest hearing. The bombs are loaded with different gases and give out different sounds, if one carries poisonous gas it has a certain sound; if it carries some other material it had another sound. Some of them explode on a time fuse and others on a contact fuse; and it is necessary for a man to have his very best hearing."

During the war the National Research Council was supported by the government. It was not concerned with medicine only. There are fourteen sections of the National Research Council, giving advice along various lines. And I happen to recall now that the best topographic map made of northern France, and which, after it was made and sent over there, was used by French, English and American soldiers, was made under the auspices of the National Research Council.

After the war it was a question—a very serious question—whether the National Research Council should continue in existence or not. The public expediency for which it had been created was accomplished. So the question arose, should it continue or should it not? Finally those who believed in its continued existence went to the Carnegie Corporation and secured an endowment of $5,000,000, $1,000,000 for a building and $4,000,000 for an endowment. The ground, immediately north of the Lincoln Memorial, has been purchased. You will see, driving down that way, a sign; that is the property of the National Academy of Sciences. A marble building is to be placed there; the contract has been let and it is expected that the building will be ready for occupancy in about eighteen months from now.

My purpose this afternoon is to tell you about the medical division of the National Research Council. We are living now, of course, on the interest of the money,—the $5,000,000 given by the Carnegie people,—and that will be cut down to $4,000,000 as soon as the building is paid for. That simply keeps up the organization. Some one comes here each year to take charge of the medical division; I came here last September and will continue until next September in charge of that division. At that time Professor Frederick P. Gay, of California, will take charge of it.

I can best illustrate what the division is by telling you something of the work that we have under way in the medical division. In the first place, when plans or regulations were formulated in the Surgeon General's Office for the examination of drafted men, it was not thought necessary to say anything about goiter. We did not think there was enough goiter in this country to play any part in the examination of the men about to enter the army. In the examinations resulting from the first draft it was found that 1 per cent of the young men between 21 and 31 years of age were so badly afflicted with goiter that they could not wear a uniform. That was a startling condition. So in the next draft special regulations were formulated with regard to goiter and it was found that about the same percentage of young men had goiter so acutely that they could not wear the uniform. We found that these men came from certain districts. Maryland, for instance, is a non-goiterous state; but there are three counties in Maryland in which 33 per cent of the men examined for the draft were excluded on account of goiter. Michigan

is a goiterous state. Washington is a goiterous state. It was decided by my division that we would get all the data on the location of goiter in this country. General Ireland was kind enough to detail Colonel Love; and we have now available in the Research Council data on the percentage of goiter, simple and exophthalmic, in every draft district in the United States.

Professor Hall has, for the past twelve years, examined all the students entering the University of Washington, with reference, among other things, to goiter. So that I now have two maps of the state of Washington, one giving the percentage of goiter in men between the ages of 21 and 31 in every county in the state; and another, a map made by Professor Hall, showing the percentage of goiter by counties in Washington among the students, both men and women, at an average age of about 19 years coming to the University of Washington. There are certain plateaus in the state of Washington where there is no goiter either on the map showing the drafted men or the map covering the students going to the University; while there are certain gorges and valleys where 45 per cent of the people are goiterous.

We have gone that far with that problem, and we intend to get a man in charge of several goiterous districts interested in the matter to study goiter, not only among men but among animals, and to send into those districts animals from non-goiterous regions and find out how long it takes them to become goiterous.

A second thing we have on hand: I have been nagging the National Tuberculosis Association for some years to get some definite statistics concerning the influence of climate, if it has any influence, upon tuberculosis in this country. The Research Council has attacked this problem, and we now have men under the direction of Dr. Henry Sewell, of Denver, and Raymond Pearl, of Baltimore, carefully studying the death certificates of Colorado for the past 15 years. When we get through we will know how many people who were born in Colorado have died from tuberculosis in Colorado. The people of Colorado say they do not have tuberculosis. If they are immune to tuberculosis, with so many tubercular people going there, it is a good thing to know it. We won't solve the whole problem of the relationship of climate to tuberculosis, but it will be a contribution toward it.

Then a man came in one day and said, "I want to know about the sex reflexes; I want to know the fundamental facts about sex, not only in man but in the lower animals and even in plants. We say that continence is perfectly compatible with the health of young men. I want to know. I will furnish the money to do the work." He was insistent and wanted to know how long it would take. I said, "You will be dead before it is finished." We have $25,000 for carrying out studies on sex problems in the lower animals, principally in microscopic animals at first. Then we will come up through the whole range of animals. At the same time we will carry on certain studies of sex behavior among men and women. And the man who is furnishing the money promises that if the results justify it he will continue this indefinitely, increasing the amount of money to be used for it.

Since the war we have had no reliable stains for bacteriological and histological purposes, and it has been a question whether we should allow the importation of stains free of duty or not. We have an arrangement with the Bureau of Chemistry, Department of Agriculture, whereby any manufacturer of stains can submit his stains for examination and they will be standardized. It is not a question of the purity of a stain; it is one as to whether a man using the same product systematically shall continue to have the same stain and get the same results.

The greatest thing that has come to the division of medicine during this year is a grant by the Rockefeller Foundation and the General Education Board of $100,000 a year for the endowment of scholarships in medicine. That is, if a young man graduating in medicine gives promise of making an unusually good teacher or a good investigator, the National Re-

search Council can now give him a stipend upon which he can live. The stipend is $1,800; but if a man has extra promise, we can put on a few hundred dollars, and if he has a family we can put on an additional few hundred dollars for them. This will give us about thirty scholarships this year and I think it will be a good thing for medicine.

Very recently the Council has endorsed a proposition for money for the study of heart disease. There are in New York City alone eighteen heart clinics and there are a good many in other cities. The purpose is to collect data so that we may know something about the prevalence, the origin, and the treatment of heart disease.

I have tried to give you briefly some idea of the National Research Council and some illustrations of the work it is doing through the division of medical science. It has no money itself, but it undertakes to go out and get money for purposes which the Council is convinced are proper and justified.

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Hospital Care at Sing Sing.—Hospital care of the sick in penal institutions is of the greatest importance when one realizes that frequently the reason men commit crime and are sent to prison is because of physical disability.

On the day of a prisoner's entrance to Sing Sing, he is given a bath, an entire outfit of prison clothing, and is then sent to the hospital, where his history is taken. This begins with a complete record of his parents and whether there has been chronic disease or mental disorder in his immediate family. Then a personal record is made of the man's age, religion, education, occupations, and length of time in each place, whether he has a past criminal record, is addicted to the use of drugs, tobacco, or liquor, or has ever had venereal disease. Special attention is paid to the subject of convulsions in any form, because many criminal assaults occur just prior to or immediately after a convulsion, and as to whether the man has ever had a nervous breakdown or been injured or operated upon, or has symptoms of tuberculosis.

If he has had gonorrhea a smear test is made; invariably a Wassermann and urinalysis is made of every inmate regardless of past history. If any condition is found requiring surgical interference, upon the consent of the inmate he is operated upon. His vision is taken and those requiring glasses are treated in the eye clinic. Teeth are also given attention. Inmates receive treatment for syphilis, sometimes continuing for as long as three years. Psychological examination is made of all inmates to determine their intelligence level. Of 182 whites and 18 blacks examined the average mental age was found to be 13 years and 3 months for whites and 10 years for the negroes. There is an average population of 1,200, but about 1,500 new inmates are received each year. As soon as they are taken care of medically and surgically, they are transferred to other prisons of the state. The hospital has 75 beds, and an average of 60 occupants.

There has been a decided increase in the number of drug addicts among those admitted recently. These are treated by the withdrawal of the drug, a substitute being provided, and the most particular care taken that the patient is not supplied from outside. The same period of observation, rest and reconstructive treatment follows as in other methods.

New York State has completed a new psychiatric laboratory at Sing Sing which is the last word in scientific construction of a diagnostic building. Provision has been made for a modern x-ray apparatus and its various accessories, rooms for venereal-disease examinations, a surgical laboratory, rooms for examinations of the ear, eye, and throat, and many other up-to-date facilities. Male nurses will also be trained here.

The new Sing Sing has, therefore, been planned as a classification and distributing prison, from which the prisoner, after a definite determination has been made of his mental, physical and economic possibilities, will be assigned to that state institution best suited to his individual requirement.—Amos O. Squire, M. D., chief of medical staff, Sing Sing, *The Modern Hospital*, June, 1922, pp. 509-512.

VITAL STATISTICS*

(Chapter from the Forthcoming Report of the Committee on Municipal Health Department Practice)

INTRODUCTORY

STATISTICAL work is for many reasons one of the least developed of the activities of municipal health departments. The science of vital statistics is still young and its rules and practices as applied in health administration are far from fixed and formulated. It is not often closely connected with specific and urgent health measures. It has been developed largely to serve as a method of control and for purposes of research. It requires often the exercise of a special technique with which many health officers are unfamiliar. As they do not know exactly how to profit from such work, they do not provide for it in their budgets. Nor is it always possible for those health officers who do appreciate the value of good vital statistics, to obtain the necessary funds for this activity from the city authorities, or the coöperative service from the rank and file of the medical profession, who, in the last analysis, are the chief source of the records which make up the material of public-health statistics. Nevertheless, there has been, in recent years, much stimulation of vital statistics in American cities, and health officers are more and more participating in their use. While there is still much diversity of procedure and great inequality of accomplishment, the field of vital statistics is coming rapidly into its own. A real opportunity is presented at this time to standardize and to adapt statistical procedures to the best service of American public health.

At the very outset, distinction must be made between the several activities which make up the statistical work of health departments.

Many health officers consider the registration of births, deaths and perhaps of cases of sickness, as the entire field of vital statistics in their departments. This is, however, only the beginning. In addition, there is the important function of investigation. This involves tabulating the results of the registration of births, deaths and sickness and of analyzing and interpreting the tabulations. It is perhaps equally important to carry out investigations into the make-up of the population and into special phases of the public health. Where properly conducted, the investigations of the public-health statistician should show what the program of the health officer has accomplished and what new activities are called for. The results of vital statistics inquiries should be a guide in developing the policy of the health officer. In this wise, the vital statistics division is an essential element in the health officer's organization. It is the research or checking agency determining what is good from what is bad, and the degree of success which the various divisions of the department attain. Very few health departments have carried out their vital statistics work in this spirit; but, this is obviously the program for the future.

JURISDICTION

In a number of cities, the registration of vital statistics antedates the organization of public-health work. It is not surprising, therefore, to find occasionally that registration is outside the jurisdiction of the health department. Much depends upon the registration laws of the state. In the great majority of the cities, however, in 63 out of the 83 studied, the health department has local jurisdiction. This is true in the 12 largest cities studied, with the exception of Boston and Pittsburgh. Likewise, in the 13 cities of the second class, with the exception of Newark and Jersey City, registration is a local health function; and in 42 out of 58 cities of the third class.

The exceptional situations arise out of the working of the state laws. In Massa-

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chusetts, for example, and in a number of other states, vital statistics registration is under the control of the secretary of state. The local administration of the law is carried out by city or town clerks, who report directly to the state official. In the Massachusetts cities, under this law, the health officers may receive the death certificates from the undertaker, issue the burial permit, and then send the certificate to the city or town clerk, by whom it is filed and return made to the office of the secretary of state. The vital point is, however, that in those cities where the health officer is not the local registrar, he has not direct access to the certificates of birth and of death and he receives copies of them from the town clerk only as a courtesy. They reach him late, and because of his lack of responsibility for them, he is very unlikely to use them for any constructive purpose.

But, even in those states where jurisdiction is with the state department of health, the local health officer may not be the registrar. This apparently occurs in Pittsburgh and Louisville. Confusion of responsibility and duplication of function often result under such conditions.

COMPLETENESS OF REGISTRATION

As the cities are all* in the death registration area, the registration of deaths is reported to be virtually complete in most of them. Seven cities, including Milwaukee, Kansas City, Mo., St. Paul, Omaha, Dallas, Houston, Salt Lake City and Duluth, succeeded in registering only 95 per cent of the deaths. Six additional cities in the middle and southwest, Denver, San Antonio, Des Moines, Fort Worth, Kansas City, Kan., and Oklahoma City, succeeded only to the extent of 90 per cent.

Birth registration, on the other hand, is much less completely carried out.† It is a newer activity in the cities of the country, and only a few of them make the claim of 100 per cent completeness. These are Grand Rapids, Utica, Lowell, Somerville and Elizabeth. The rest vary considerably in the extent of their claimed completeness of registration, from 70 all the way to almost 100 per cent. It is important to note that in the cities of the first class, there are still some, like Cleveland and Chicago, which succeeded only to the extent of between 70 and 80 per cent. Much, obviously, depends upon the location and age of the cities, the provision of the state law and the traditions for good registration that have prevailed in the vicinity.

From the comments made by the field agents of the Committee, it would appear that the best registration is obtained in those cities where the local health department has immediate responsibility. With few exceptions, poor registration results when the local authority is vested in the hands of some one who is not the health officer. This applies especially to birth registration, because the immediate utilization of the birth certificates by the health officer for the conduct of infant hygiene work, stimulates physicians and midwives to return complete and early certificates. On the other hand, where there is no such use made of the birth records by the health officer, registration is likely to be carried out in a perfunctory manner.

PROSECUTIONS AND CONVICTIONS

No prosecutions are on record for the non-reporting of deaths. Only a few cities reported any prosecutions or convictions for non-reporting of births. New York City, for example, reported five prosecutions and five convictions; Norfolk and Savannah, likewise, reported some cases. In Boston a few prosecutions for failure to report births are on record, but warnings are sufficiently effective usually, because of the harmony existing between physicians and the registry department. Similarly, in other cities, much will depend upon the

*With the exception of Forth Worth and Des Moines.

†Only fifty-eight cities in this study are in the Birth Registration Area.

tact and firmness of the registrar and the degree of the coöperation which he can win from the body of physicians.

TABULATIONS AND PUBLISHED REPORTS

Nearly all of the municipal health departments studied make tabulations of one sort or another from the birth and death certificates which they receive, regardless of whether they carry on registration or not. These tabulations are intended to serve either as office manuscripts without publication, or as the source for a variety of tables in weekly, monthly and annual reports.

Very often where no formal printed or multigraphed weekly, monthly or annual report is circulated by the health officer, convenient summaries are submitted to the local newspapers, and these serve as sources of information on important facts of the local vital statistics.

All of the 12 cities in the first group issue an annual report; ten of them issue formal monthly reports, one city (Chicago) includes its monthly summaries with the weekly report. In two of these (Cleveland and Pittsburgh) monthly reports are circulated in typewritten form. In addition, 7 of these first-class cities issue either printed, mimeographed, or typed weekly reports. Twelve of the 13 cities in the second class issue some form of report, 8 an annual report, 10 a monthly and 5 issue a weekly report. All of the cities of the third class, except Camden, Kansas City, Kan., Elizabeth, Utica and Erie, issue some form of weekly, monthly or annual report. In a few cities this report consists often of a single sheet, giving simply the number of deaths during the year from principal causes, the number of births, and a few other items of information which, it seems to the registrar, would be of interest to his local public.

ANNUAL REPORTS

The vital statistics sections of the annual reports vary greatly from city to city, depending very largely upon the resources available in funds and personnel. In a number of cities where a fair amount of valuable detail is shown in the published reports, the date of issue is much delayed, presumably by the lack of adequate clerical assistance to take off tabulations and to prepare the material for the printer. When these reports appear, they are already out of date. But, apart from this criticism, the annual reports of the larger cities are often valuable documents. Those from the cities of New York, Chicago, Philadelphia, Boston and Providence are replete with useful information. The New York report usually contains excellent historical tables on the course of mortality from the principal cause of death. These tables have been supplemented at various times by the issuance of condensed reviews and special monographs abstracted from the manuscript and the records in the New York Registrar's office. A commendable activity in New York City is the preparation of fairly detailed statistics for sanitary areas of New York City.

The Philadelphia annual report gives extensive and valuable information on births by months, ward or residence of mother, by age, color and nativity of mother and by occupation of father. Facts for the causes of death are shown according to titles of the International List of Causes of Death with respect to sex, age, calendar month and wards. The Philadelphia report is one of the few which show annually the occupation of the deceased persons according to certain important causes of death. Mortality from certain diseases, typhoid fever, for instance, is shown by wards of the city and by calendar year. The infant mortality tables are especially rich in detail. Favorable comment should also be made upon the tables shown in the annual report for the Newark Department of Health. The tabular matter is frequently supplemented by graphic charts and these promote the understanding of the historical and comparative facts in an agreeable manner.

Reference is made here only to some of the outstanding features of a few annual reports. It is impossible to discuss at any length the contents of all of them because of the great variations that exist in the types of tabulation, in the arrangement of the data and in the local needs for special information. There is obviously need for greater uniformity in the character of the reports issued by the cities of the various classes as to size. It is recommended that the Section on Vital Statistics of the American Public Health Association be requested to prepare a set of standard tables for use by municipal health departments, with recommendations as to the best size and arrangement of the report. Possibly a plan similar to that outlined in the Cleveland Hospital and Health Survey could be used as a guide. The types of tables on population, birth, death and morbidity statistics shown therein are the kind of statistical material which should be in the annual reports of the larger municipal health departments. It should be remembered that the Census Bureau and the U. S. Public Health Service issue valuable statistical reports on mortality and morbidity for the principal cities, and local departments should strive to avoid duplicating these. The field for the local authorities is obviously to develop detailed data which will facilitate the administrative work of the health department.

MONTHLY REPORTS

The monthly reports are the most frequently issued and the most useful because of their timeliness. They contain usually a summary of the number of deaths which occurred during the preceding month, by principal causes, and in a number of instances by broad age groups, singling out especially the deaths of infants under one year. In addition, there is also in most reports a table showing the number of births reported as well as one giving the number of cases of principal notifiable diseases registered. Outside of these tables, there is very little uniformity among the published tabular results of the several cities. Some give the meteorological data of the previous month for the city in question. Others give summaries of the activities of the employees of various divisions of the department. Again, there is need for standardization of reporting of essential items. Some such arrangement as is shown in the general tables published monthly by the New York City Department of Health could profitably be adopted by the larger cities. In addition to facts on the causes of death, the cities could agree upon a form of statement of the reports of the principal notifiable diseases, and for births and marriages.

WEEKLY REPORTS

The few weekly reports which are published are decidedly scrappy in nature, and, outside of a small number, are hardly of much use. It would be highly desirable if all of the cities would issue simple, uniform weekly statements to supplement what material the general statistical reader obtains from the weekly Public Health Service reports and from the *Census Bureau Weekly Health Index*.

PERSONNEL

Under this head, we may consider the registrar or statistician on the one hand, and the clerical staff on the other. The presence of a full-time registrar or statistician depends upon the size of the city, but equally upon the interest of the health officer in vital statistics as an aid to administration. Thus, in the 12 cities of the first class, there are 9 full-time registrars. In Cleveland, the registrar is on part time. In Baltimore, the health officer acts as registrar, and in San Francisco he is at the same time the chief clerk of the department.

In the 13 cities of the second class, 10 report a full-time registrar or person in direct charge of vital statistics work. In Seattle the health officer acts as registrar. No statement is available for the remain-

ing 2 cities, namely, Jersey City and Indianapolis.

In the 58 cities of the third class, there are full-time registrars in 30. In Providence the registrar is also the superintendent of health. In Bridgeport, Memphis, Dayton and Oklahoma City the registrar is on part time and in one case he is the city physician. In the remaining 23 cities, which are almost all among the smaller ones, there is apparently no one in direct charge of vital statistics. It is presumed that in such cases the duties are merged with those of the health officer or some physician or clerk in the department.

The number and character of the clerical staff vary with the size of the city, with the type of registration law which prevails, but especially with the type of health administration. A health officer who is interested in modern and scientific public-health work will insist upon the tabulation and analysis of the vital data of his population, and he will at least attempt to secure an adequate staff of skilled statistical workers.

In New York City, where excellent traditions of public-health work and vital statistics have long prevailed, the staff includes, in addition to the highly skilled registrar, 5 physicians who are assistant registrars, each supervising a borough, 5 other physicians who issue burial permits, and 55 clerks. Among the latter, 44 are engaged on registration duty, 7 do strictly statistical sheet work, and 4 operate mechanical devices, such as card-punching and sorting machines. There are two counting-sorting machines used in the preparation of the tables, which are equivalent to a considerable number of additional clerks. But disregarding the item of machinery, the number of registration and statistical clerks in New York City is about one per 100,000 of population. In the cities of the first group, the average number of clerks is one per 100,000 of population, in those of the second class .6, and in those of the third class 1.2.

The facts at our disposal clearly indicate that there is a serious deficiency of statistical personnel in the health departments of American cities. To conduct adequate registration of births, deaths and of sickness, and to tabulate and analyze the data so collected, is a serious task in most cities and requires a sufficiently large skilled personnel. From the results achieved in New York City, and in a number of other cities where good vital statistics are produced, it would appear that a minimal clerical staff of one for each 100,000 of population was needed to assist the full-time and well equipped registrar. It is unfair and not at all economical to expect a health officer with his many duties to be the registrar and statistician as well, and almost as undesirable to give the registrar untrained or insufficient help. Where this occurs, it is poor economy, for either the health service must suffer through the lack of necessary guiding data, or through the misuse of the health officer's or registrar's time.

SALARY OF REGISTRAR

Data on the salary paid to the registrar or statistician are available for 43 cities. In some cities, as in Baltimore and Seattle, the health officer functions as the registrar and, apparently, no additional salary is paid. In some cities, as in Providence, the health officer receives an additional stipend as registrar. In others a small salary is paid the registrar, which is supplemented by fees, as in Cincinnati and Toledo; and in a few, as in Atlanta and Reading, the registrar is paid by fees only. In a considerable number, however, little or no statistical work is really conducted and apparently no provision is made to cover the salary of the registrar or his staff.

In the 43 cities where the salary of the registrar is stated, the amount varies markedly. The salary varies naturally with the size of the city. The same degree of skill and of administrative ability is not required of a registrar in a small city of 100,000 as in a city of 1,000,000 or more people. But, while this is gen-

erally reflected by the figures, there are striking exceptions showing how diverse is the conception of the city authorities of the value of such work. Thus, in cities of the first population group, 8 salaries are stated, and these vary from $1,584 in St. Louis to $5,500 in New York City. The next highest amount is in Chicago, $3,800. In Cleveland, the part-time registrar receives $1,750. The average salary paid to full-time registrars by 7 of the first-class cities is just under $3,200.

In the cities of the second class, the salaries of 10 registrars are given. The average for full-time service is $1,850, and varies from $1,260 in Portland to $3,300 in New Orleans. In Cincinnati, the salary of $1,600 is supplemented by fees. In the cities of the second class, all but two, Milwaukee and New Orleans, pay less than $2,000. In 21 cities of the third class, the average salary paid to the full-time registrar or statistical chief is $1,630 and varies from a minimum of $560 in Paterson to a maximum of $2,400 in St. Paul. The part-time registrar in Providence receives a salary of $2,750.

It is clear from the above that the registrar in a considerable number of cities is a clerk acting under the direction of the health officer. Only the routine duties of registrar are carried out under these conditions. It is to be seriously questioned whether persons with adequate skill or ability to function as statisticians of health departments of large cities can be found who will accept salaries so low as those we have quoted. These are, in many instances, less than those usually paid to junior clerks in commercial pursuits. Almost without exception, the salaries paid to registrars in American cities are too low to insure the proper type of statistical service.

COST OF VITAL STATISTICS

It is difficult to give a satisfactory statement on the cost of vital statistics in municipal health departments. This results from the great variety of procedures in American cities. As already pointed out, some of the large cities, Boston, Newark and others maintain a vital statistics division in their health departments and in addition support a registry office in the city clerk's department. In the great majority of cases, however, vital statistics registration is a part of the health department's activities.

Costs as reported to the Committee have not always been clearly classified to show what has been included. We cannot always tell whether the cost as given covers the registration work carried on outside of the health department. In any case, reports are available for 33 cities; 7 of the first class, 7 of the second class, and 19 of the third class. In all, the per capita cost for vital statistics is 1.6 cents. This is also the average figure for the first and second class cities. The average is 2.5 cents for the cities of the third class. The per capita cost is, therefore, greatest in the smaller cities, and it is in them also that the greatest variations are, of course, found. The maximum cost per capita is found in Hartford, where 5.2 cents is expended. There are a number of these smaller cities where apparently nothing is spent on vital statistics. Among the larger cities, there is a little more uniformity of expenditure. In the city of New York, where both registration and vital-statistics analysis are admirably conducted, the cost is 1.5 cents per capita, and in Chicago 1.9 cents. In Boston the per capita cost in the health department is 3.6 cents, but this amount includes the cost of clerical work and supplies for the whole division of vital statistics, records and accounts. What the cost for vital statistics alone is, it is impossible to say. It must be remembered, however, that in Boston a considerable sum, unknown to the Committee, is expended by the division of the city register outside of the health department, so that altogether Boston ranks high in the list of large cities for its expenditures for vital statistics.

In the cities of the second class, the high figure of cost for New Orleans is conspicuous, 4.6 cents per capita. In the cities of the third class, the expenditures for Providence, 4.9 cents; St. Paul, 4.2 cents; Birmingham, 4.1 cents; Hartford, 5.2 cents; Albany, 4.0 cents, all show high figures. The high per capita cost in Providence may be explained by the uniformly high standard of statistical work conducted there. For many years the annual reports of the Registrar have served as models of form, completeness and penetrating analysis of the departmental activities to the health officers of the country.

In view of the accomplishment of New York City and Chicago at costs less than 2 cents per capita, it would appear reasonable to suppose that an expenditure of this amount per capita would bring the results in registration and analysis necessary for the conduct of effective health work in the smaller cities which require fewer tabulations and simpler analyses. It is not always possible to reconcile the high cost of vital statistics work in some of the smaller cities with the character of their published statistical output.

FEES

Fees are usually charged for transcripts of birth and death certificates and on file as the vital-statistics division of health departments who are usually the custodians of these divisions. In fact, this source of revenue often determines the amounts appropriated for vital-statistics work. Of the 68 cities which reported on this item, all charged fees for transcripts. For 38 cities reporting the amount charged, the fee was 50 cents in 26 cities and 25 cents in 8 cities. In Denver the fee is $1.00. The amount thus collected varies, of course, with the size of the city and the demand for transcripts. In New York City nearly $50,000 was collected in 1920. But there are considerable differences in amounts received in cities of about the same size. Thus, Chicago collected a total of $13,200 and Philadelphia only $3,157. Sometimes a large amount is collected in a medium-sized city, as in Hartford ($2,716), indicating perhaps the extent to which the public has been educated to avail itself of the facilities of the registrar. In this way, the amount received in fees is perhaps also an index of the completeness of registration and the regard which the community has for the records on file.

The amounts received are credited in 46 out of the 83 cities to the general fund of the city. There are a few (4), such as Pittsburgh and Memphis, where the fees collected are received by the registrar. In a few cities fees are credited to the health department, as in New Orleans, Indianapolis, Omaha, Duluth, Flint and Canton, and in a few the fees are credited to the state department of health, as in Kansas City, Kan., Reading, Erie, Scranton, Fort Worth and Des Moines.

SUMMARY AND CONCLUSIONS

1. Vital statistics as an effective agency in public-health administration has been developed by only a few municipal health departments.

2. Vital statistics registration is fairly well developed, much better for death registration than for birth registration. The conduct of registration is still complicated by confusion of responsibility. In some states where the law empowers city or town clerks to register vital statistics, the local health departments have no responsibility for the accuracy or completeness of registration. Under such conditions, registration is likely to be unnecessarily expensive and unproductive for constructive health work. The registration of births is then often incomplete, and of deaths rather inaccurate as to statements of cause.

3. Nearly all cities issue some form of report; the monthly report is most frequently issued. The tabulation of data in these reports show very little uniform-

ity as to method of compilation or as to content. There is great need for agreement among health officers and municipal vital statisticians upon what tabulations are called for in cities of different population classes and upon the size and style.

4. The registrars are, for the most part, not well equipped for research work, and, in a considerable number of cities, are paid so inadequately as to preclude the employment of competent men. The clerical staffs are often inadequate in number. On the other hand, in many cities the number is sufficiently large to justify the expectation of better work than is now obtained. A minimal clerical staff of one clerk per 100,000 population, in addition to the registrar or statistician, should generally be sufficient for the conduct of the vital-statistics work of the health department.

5. The average cost of vital-statistics work is 1.6 cents per capita. But there are altogether too many cities which spend next to nothing on their vital-statistics work, and also many cities which, although they spend considerably more than the general average, do not appear to profit particularly from the results obtained.

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A RAPID, SIMPLE METHOD OF MAKING CHARTS

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THE problem of chart-making for the illustration of students' lectures and for public-health propaganda is a troublesome one, for it is a tedious and time-consuming process. We have tried several methods of lettering in the Institute of Hygiene, such as the rubber stamp, stencilling, etc., but all were found unsatisfactory, for they were slow, and did not give a neat, clean result. In the United States and in Europe cut-out paper letters of various sizes, gummed on one side, are available. These are good but quite expensive, and it is difficult to get a good alignment with them.

We hit upon the idea of having sheets of thin paper printed with letters of different sizes. To make the charts, these letters are cut in squares and pasted side by side. The paper is so thin that at a distance of three to six feet one cannot tell that the letters are pasted and not printed on the large chart.

In order to determine the relative frequency with which various letters occur in medical and public-health literature, we counted the letters on several pages of current medical magazines and obtained the relative proportions in which each letter appeared.[1] In round numbers these are as follows:

Z, V, Q, K, J	1
Y, W, G	10
D, C, U, P, F, M	30
N, I, H, L	60
A, S, O, R	80
T	100
E	150

The numbers 0 and 1 occur many more times than any other numerals for they serve also as o and i. Sheets of letters may be printed in this proportion; that is, for every sheet of q, 150 sheets of e should be printed.

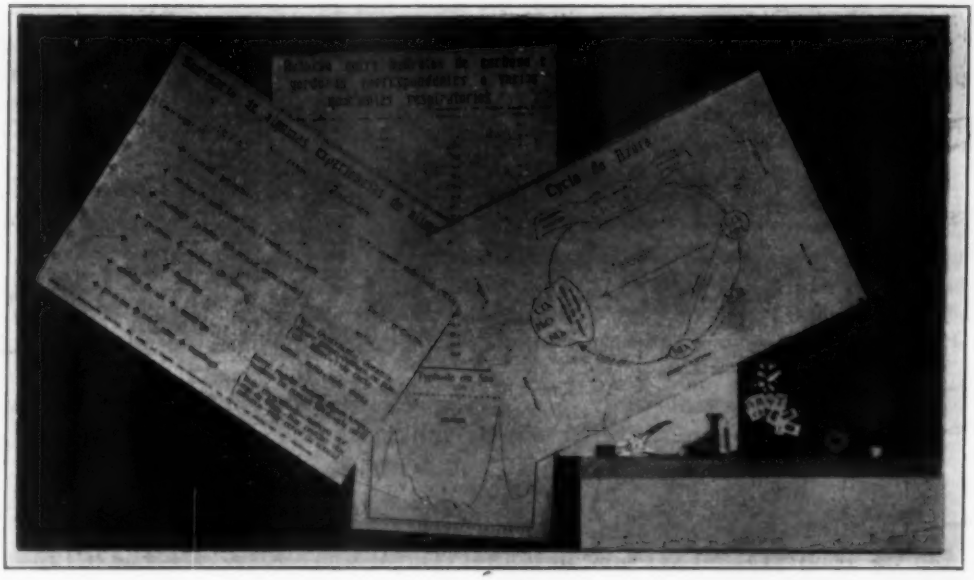
We have found that 5 different sizes of letters, the smallest 0.5 cm., the largest 3.5 cm. high,[2] answer all our purposes. Besides these black types, we have had some letter sheets printed in red ink.

The printed sheet may be gummed, but

[1] *Editor's Note*—In order to make the scheme more useful to American readers, we have analyzed some representative samples from three American medical and health periodicals, with the following approximate results, which may be compared with those for the Portuguese language given by the author:

J, K, Q, X, Z	1
B, G, V, W, Y	20
C, D, F, M, P, U	45
H, L, R	80
A, I, N, O, S	110
T	150
E	200

[2] From 18 to 168 points according to the American system of type measurement.

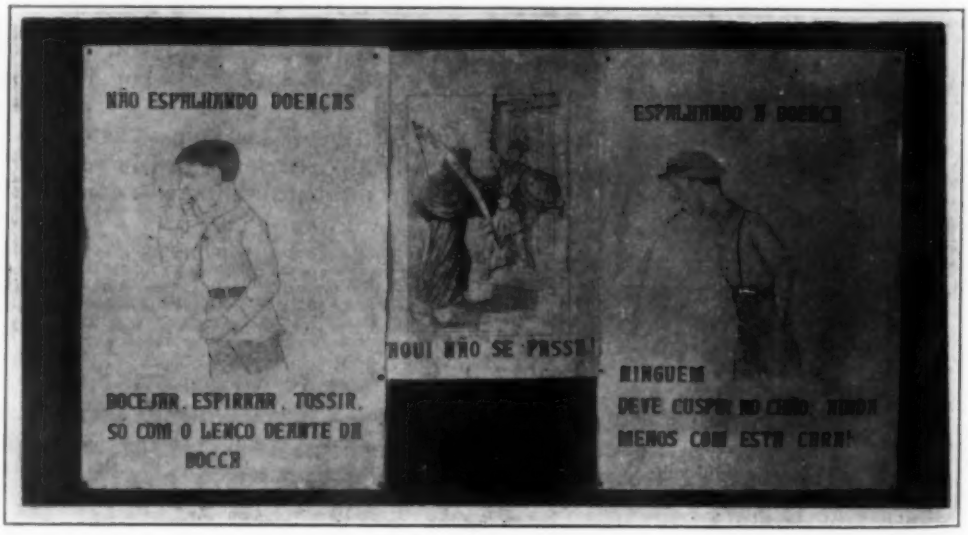


this increases the cost. A better way is to half fill a 4-ounce broad-mouth bottle with gum arabic paste and cover the bottle with two layers of surgeon's gauze. Invert the bottle until the gauze is moistened with the paste and with a small brush paste the letter squares first on the gauze and then on the chart. This process is very rapid, very neat, and clean. The photographs illustrate a few of the charts made by this method together with some of the letter squares.

In order to reinforce the chart at the top so that it may be suspended, a bit of adhesive tape 3 cm. wide is folded over the upper margin of the chart. The tape is then perforated with the common hand punch which shoemakers use to insert eyelets in shoes.

The charts are strong, neat, clean, simple, rapidly made and very inexpensive. The method is especially applicable to county health work propaganda, school hygiene, and public-health instruction.

By this means it is very easy to make use of posters with lettering in a foreign tongue, simply by covering up the legends with these printed letters. This is what has been done in the middle poster in the second photograph.



WATER SUPPLIES*

(Chapter from the Forthcoming Report of the Committee on Municipal Health Department Practice)

OWNERSHIP

In 11 of the 83 cities studied[1] the water supply is owned by a private company, in 3 by the Metropolitan Board of Boston,[2] and in the remaining 69 by the municipality itself.

CONTROL

In none of the 83 cities is the water plant operated by the health department. The degree of control exercised by the health department varies widely. In 31 cities no control is exercised by the municipal health department.[3] In the case of 24 of these 31 cities, however, the state department of health maintains close supervision over municipal water supplies. This is notably true of cities in Massachusetts, Pennsylvania, Ohio, California, Michigan and Minnesota.

Of the remaining 52 cities, information is not available regarding 5.[4] The degree of control exercised by the remaining 47 is as follows: "Controls" 3 cities,[5] "Advises or Supervises" 6 cities.[6] In 4 cities, Atlanta, Cincinnati, New York and Richmond, the health department "Coöperates" in the control of the water works. In 3 cities, Portland, Scranton and Seattle, the health department maintains patrol of the watershed, Scranton and Portland conducting analyses in addition to the patrol. In 30 cities the health department laboratory makes analyses of the city water supply. In 3 cities, Jacksonville, Savannah and Syracuse, the health department makes all analyses. In 8 cities, Buffalo, Cleveland, Dallas, Dayton, Indianapolis, Milwaukee, Yonkers, Youngstown, analyses are made daily; in 2, Louisville and New Haven, analyses are made weekly; in the remaining 17[7] the frequency is not stated or is longer than one week.

CHARACTER OF SUPPLY

The number of cities having water supplies from underground, surface and mixed sources, with the populations served, and subdivided according to the method of treatment is shown in the accompanying table.

According to this table, 12 cities use water from underground source exclusively, of which 11 are from wells,[8] and one, Des Moines, from infiltration galleries in a river. The 64 cities using water from surface sources are supplied: 26 from rivers; 30 from lakes, ponds and impounding reservoirs; 7 from the great lakes, and 1, Albany, from a mixture of river and lake water. Mixed underground and surface waters are supplied to 7 cities. Altogether 4.9 per cent of the total population of the cities surveyed use water from underground sources, 88.6 per cent use water from surface sources, and 6.5 per cent are supplied with mixed surface and ground water.

TREATMENT OF WATER

Of the 83 cities only 9 cities serving 4 per cent of the total population use water without some form of treatment. Eight[9] of these supplies are from wells and one, Portland, from mountain

*Prepared by Allen W. Freeman, M. D., Johns Hopkins University, Baltimore, Md.

1. San Francisco, Indianapolis, Birmingham, Bridgeport, Elizabeth, New Haven, Oakland, Paterson, San Antonio, Scranton and Utica.
2. Boston, Lynn, Somerville.
3. Los Angeles, San Diego, San Francisco, Wilmington, Washington, Kansas City, Kansas, Boston, Cambridge, Fall River, Lawrence, Lowell, Lynn, New Bedford, Somerville, Worcester, Flint, Kansas City, Missouri, St. Louis, Omaha, Camden, Akron, Canton, Columbus, Toledo, Reading, Duluth Minneapolis, St. Paul, Providence, Fort Worth, Spokane.
4. Denver, Erie, Elizabeth, Paterson, Trenton.
5. Detroit, Newark, Utica.
6. Baltimore, Hartford, Houston, Salt Lake City, Memphis, Schenectady.
7. Albany, Birmingham, Bridgeport, Des Moines, Grand Rapids, Jersey City, Nashville, New Orleans, Norfolk, Oakland, Oklahoma City, Philadelphia, Pittsburgh, Rochester, San Antonio, Springfield, Tacoma.
8. Memphis, San Antonio, Dayton, Houston, Camden, Lowell, Spokane, Jacksonville, Schenectady, Canton, Savannah, Portland.
9. San Antonio, Houston, Camden, Lowell, Spokane, Schenectady, Canton and Savannah.

TABLE

SOURCE AND METHOD OF TREATMENT OF WATER SUPPLIES
83 AMERICAN CITIES
Showing Number of Cities Having Supplies of Each Type and the Population Supplied

METHOD OF TREATMENT	SOURCES OF SUPPLY									
	Underground Sources		Surface Sources				Mixed Underground and Surface	Total Number	Population Supplied	Per Cent of Total
	Wells	Infilt. Galleries	Rivers	Impounding Ponds, Lakes, etc.	Great Lakes	Mixed				
No treatment	8	0	0	1	0	0	0	9	1,150,514	4.0
Storage only	0	0	0	7	0	0	0	7	1,868,431	6.5
Storage and Chlorination	0	0	0	11	0	0	0	11	7,564,647	26.3
Chlorination only, Complete	2	1	0	0	5	0	0	8	5,128,807	17.8
Chlorination only, Partial	1	0	0	2	0	0	1	4	1,152,884	4.0
Coagulation, Sedimentation and Chlorination	0	0	6	1	0	0	0	7	1,832,406	6.4
Rapid Sand Filtration and Chlorination	0	0	15	4	1	0	2	22	4,516,823	15.7
Slow Sand Filtration	0	0	0	1	0	0	0	1	129,614	0.4
Slow Sand Filtration and Chlorination	0	0	5	3	0	1	0	9	3,640,645	12.6
Mixed treatment	0	0	0	0	1	0	4	5	1,818,485	6.3
Total Number Cities	11	1	26	30	7	1	7	83	.....	.....
Population Supplied	1,298,694	126,468	8,041,720	11,721,519	5,648,435	113,344	1,853,076	.....	28,803,256	.....
Percent of Total	4.5	0.4	27.9	40.7	19.6	0.4	6.5	100.0	.....	100.0

streams from an uninhabited watershed.

Storage is the principal method of treatment in 18 cities, serving 32.8 per cent of the population. Of these, 7 use storage alone[1] and 11 use chlorination in addition.[2]

Chlorination alone is relied on by 8 cities serving 17.8 per cent of the population. Of these, 2, Jacksonville and Dayton, are well supplies, one, Des Moines, from infiltration galleries, and five, Chicago, Detroit, Buffalo, Milwaukee and Duluth, from the Great Lakes. Four cities serving 4.0 per cent of the population use chlorine for part of the year or for part of the supply.[3]

Coagulation with alum or lime, followed by sedimentation and chlorination, is used in 7 cities, serving 6.4 per cent of the population. Of these supplies 6 are from rivers,[4] while one, San Diego, is an impounded supply.

Coagulation, sedimentation and rapid sand filtration followed by chlorination is the method of treatment in 22 cities, representing 15.7 per cent of the population of the group.[5]

Slow sand filtration plants serve 10 cities having 13.0 per cent of the total population. Of these, 9 use chlorination as a final treatment[6] and only one, Springfield, is not chlorinated.

In five cities having 6.3 per cent of the population of the group, the supply is taken from two or more sources which are treated differently. In Cleveland all the water is taken from Lake Erie, but part of the water is filtered by rapid sand filters and chlorinated, while part is served to the consumers after chlorination alone. In Los Angeles part of the water is taken from infiltration galleries and supplied without treatment, while part from impounded streams is treated by storage. An additional supplementary supply is chlorinated before distribution. In Indianapolis part of the supply is derived from wells and delivered without treatment, while another part is filtered by slow sand filters and chlorinated. In Denver the supplies from three different sources are all treated differently, 10 per cent of the supply being taken from infiltration galleries is distributed without treatment, while 20 per cent from surface streams is treated by slow sand filters, and 70 per cent of the total is treated by rapid sand filters. Liquid chlorine, hypochlorite of lime and "chloramine" are used for final disinfection. In St. Paul part of the supply is derived from wells and part from lakes. The lake supply is chlorinated.

LABORATORY CONTROL AND TREATMENT

Of the 83 cities, 69 either have a laboratory at the water plant or other arrangements for daily laboratory examination of the raw and treated waters. This includes all rapid and slow sand filtration plants except the rapid sand plant at Oklahoma City, which is said to be without laboratory control of any kind. It also includes all coagulation and sedimentation plants and numerous plants depending on storage, chlorination or both. Of the 14 cities without laboratory control, Oklahoma City has already been referred to. Four well supplies used without treatment are without laboratory control. Examinations are said to be made every three months by the state of the Camden well supply, every month of the Houston well supply, weekly of the Spokane well supply, and never, except when new wells are drilled, at Canton, Ohio. The stored supplies of the Massachusetts cities are controlled by the state, laboratory examinations being made monthly. This includes Worcester, New Bedford, Fall River, Cambridge and

1. Boston, San Francisco, Worcester, New Bedford, Fall River, Lynn and Somerville.
2. New York, Newark, Seattle, Jersey City, Syracuse, New Haven, Bridgeport, Hartford, Cambridge, Tacoma, Utica.
3. Salt Lake City, Los Angeles, Memphis and Rochester.
4. St. Louis, Kansas City, Mo., Omaha, Birmingham Richmond, and Nashville.
5. Baltimore, Cincinnati, New Orleans, Minneapolis Toledo, Columbus, Louisville, Akron, Atlanta, Dallas, Grand Rapids Paterson, Youngstown, Trenton, Norfolk, Wilmington, Fort Worth, Kansas City, Kans., Elizabeth, Erie, Flint and Oklahoma City.
6. Philadelphia, Pittsburg, Washington, Providence, Scranton, Albany, Reading, Yonkers, Lawrence.

Lynn. Syracuse and Rochester, N. Y., report that their supplies, from storage, are examined twice weekly. The San Francisco stored supply is examined monthly, and the Seattle stored supply is examined weekly.

DISTRIBUTION OF PUBLIC WATER SUPPLIES

Information is available as to the percentage of the population of 82 of the surveyed cities furnished with the public supply. In 29 cities the public water supply is used by 100 per cent of the population and in an additional 26 cities the percentage is 95 or more. This includes practically all of the larger cities of the country. In 15 cities[1] the population supplied is between 90 and 95 per cent. In 6 cities[2] the percentage supplied is between 80 and 90. In Oklahoma City of this group, however, while the public water supply is distributed to 84 per cent of the population, only 30 per cent are said to use it for drinking. In 5 cities[3] the percentage of population using is between 70 and 80. In Kansas City, Kans., the public water supply is distributed to 68 per cent of the population.

CONSUMPTION OF WATER

The figures for consumption of water are available for 68 of the 83 surveyed cities. Daily per capita consumption varied between 49 gallons for Lawrence to 259 gallons for Chicago. Other cities with low rates of consumption are Oakland, 50 gallons; Fall River, 53 gallons; Dallas, 62 gallons; Des Moines, 68 gallons; San Francisco, 70 gallons, and Worcester, 75 gallons.

Rates of consumption of 200 gallons per capita per day and over were as follows: Savannah, 200; Spokane, 201; Buffalo, 229; Tacoma, 230; Salt Lake City, 235, and Chicago, 259. Of the 68 cities for which the information is available, 47 had a daily per capita consumption of between 75 and 150 gallons.

PRIVATE WATER SUPPLIES

The data regarding private water supplies are not sufficiently detailed to make a statistical analysis possible. In most cities in which there are any considerable number of private wells some effort is apparently made to control the quality of these supplies. Data as to the actual number of private wells, and the quality of the water supplied by them, are not available for any considerable number of cities. Similar conditions prevail in regard to the vended bottled waters.

DISCUSSION

The water supplies of the 83 cities surveyed are predominantly owned by the municipalities themselves. The relationship of the water supply to the health of the community using it is so direct and of such tremendous importance that it is necessary that the responsibility for the water supply be borne by the muncipality.

Control over the public water supply is not usually a function of the health department. It is predominantly an engineering procedure and should be, as is usually the case, a separate department of the city government. The health department should, however, advise with the authorities in control of the supply and should, except in unusual cases, check the quality of the water by regular and frequent analyses. This is found to be the case in the majority of the cities studied, and in the remainder the control exercised by the state is usually close and accurate.

The public supplies of the 83 cities are for the most part derived from surface sources and are treated in a wide variety of ways. Chlorination as a final treatment is used in almost all the cities studied. The stored supplies of Massachusetts and a few well supplies of the middle west are almost alone in being used without chlorine.

The plants are as a rule under close

1. Cincinnati, Denver, Toledo, Oakland, Omaha, Richmond, Dallas, Dayton, Houston, Grand Rapids, Youngstown, Des Moines, Reading, Tacoma, Flint.
2. St. Paul, San Antonio, Nashville, Salt Lake City, Duluth, Oklahoma City.
3. Washington, Indianapolis, Akron, Fort Worth, Jacksonville.

laboratory control. This applies to all slow sand filters, all rapid sand filters except one, all coagulation and sedimentation plants and to a number of the well supplies and storage systems. The stored systems of Massachusetts are not usually under local control, monthly analyses by the state being deemed sufficient. The adequacy of this system is apparently demonstrated by the low prevalence of typhoid fever in these cities.

The variations in water consumption are extreme and would appear much larger than the difference in legitimate demand would justify. Metering of the consumers in the cities with excessive consumption would probably decrease the per capita waste without affecting the use of water for all necessary or desirable purposes. The distribution system of the older eastern cities and of many of the other cities is complete. In a number of cities, however, the public supply fails to be used by a large per cent of the population.

Regulation of private wells and springs and of vended waters does not seem to be a practicable procedure.

The discussion of typhoid fever in relation to the character of the water supply will be taken up in the section on communicable diseases.

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Training for Hospital Social Work

The New York School of Social Work offers this year a course of training for hospital social work, which includes the following subjects: Health and Nutrition with especial reference to child hygiene, given by Dr. A. M. Stevens; Problems of Disease by Dr. Samuel Bradbury; History and Organization of Medical and Nursing practice, Dr. George Bigelow; Public Health, by Dr. Michael M. Davis, Jr.; a seminar in Medical Social Problems, Dr. Davis and Miss Antoinette Cannon; Social Case Work, Miss Margaret Leal; Community Organization, Mr. Walter Pettit; Human Behavior, Dr. Bernard Glueck; Statistics and Research, Miss Kate Claghorn, and electives in Industry, Child Welfare, Criminology, and other subjects. Practice will be given in the clinics of Cornell Medical School and other institutions.

The standard entrance requirement of the school is four years of college work. Students with less than four years of college but with graduation from an approved school of nursing may also be admitted. The full course covers two years. Credit will be given for courses and practice considered by the head of the department the equivalent of any of the above. The school issues a special bulletin on this course, which may be had from the registrar, 105 East 22nd Street, New York City. The court begins September 18, 1922.

Public-Health Nursing of the American Red Cross.—The public-health nursing activities of the American Red Cross reach the rural communities where there are no other public-health activities, and no organization dealing with public-health work. It is the policy of the Red Cross, as soon as the community realizes the good done by the public-health nurse, to ask the local authorities to take over the work. The Red Cross then moves on to another county and serves as a pioneer, almost as knight errant, in promoting simple public-health activities. It is not the desire of the Red Cross to be in competition with other agencies, or to encroach upon any function of the practicing physician.

The instances where the nurses may have exceeded their authority have been few and always prompted by a humane instinct, amounting at times to compulsion, to render an imperative service without the delay required to secure medical approval. It must be remembered that some of our nurses work in localities where the nearest doctor is far away, at times as much as seventy-five miles away.

The American Red Cross appreciates and respects the physician, and, almost without exception, has their active help and sympathetic coöperation in all the communities Cross nurse does her splendid work.—John Barton Payne, Chairman, Central Committee, *Red Cross Courier*, June 10, 1922. (*J. A. T.*)

FIFTY-FIRST ANNUAL MEETING OF THE A. P. H. A.

Many features will combine to make the fifty-first annual meeting of the Association, to be held in Cleveland, Ohio, October 16 to 19, one of the most enjoyable in the Association's history. The central location of Cleveland is expected to produce a large attendance, second only to that of the Semicentennial meeting in New York.

Matters connected with the reorganization of the Association, which has been in progress for the last six months, are expected to occupy a foremost place in the proceedings. The various committees which have been at work upon these matters will present their reports, which are naturally of the greatest interest and importance to the members of the Association.

Business, however, will not displace the usual scientific sessions, which are the main object of the meeting. Programs will be offered this year by the following sections: Laboratory, Vital Statistics, Public Health Administration, Sanitary Engineering, Industrial Hygiene, Food and Drugs, and Child Hygiene. In addition the provisional sections on Health Education and Publicity and on Public Health Nursing will meet. Officers of the various sections, including the program chairmen responsible for the section programs, are listed on the first advertising page of the JOURNAL. At this writing, only a very incomplete and tentative idea of the programs can be given. Plans of some of the sections may be indicated tentatively as follows:

Child Hygiene

Papers by:

DR. JULIUS LEVY, Director Bureau of Child Hygiene, State Board of Health, New Jersey. Maternal Mortality and Mortality in the First Month of Life.

DR. H. J. GERSTENBERGER, Medical Director, Babies' Dispensary, Cleveland, Ohio. Preventive Infant Feeding—Its Simple Application.

EDGAR SYDENSTRICKER, Statistician, U. S. Public Health Service. Indices of Growth in Children.

DR. ARNOLD GESELL, Professor of Child Hygiene, Director of Psycho-Clinic, Yale University.

DR. MERRILL E. CHAMPION, Director, Division of Child Hygiene, Massachusetts Department of Health. The Channel and Some Shoals in Municipal and State Child Hygiene Administration.

DR. KENNON DUNHAM, Cincinnati, Ohio.

DR. HOWARD CARPENTER, Philadelphia. Should the Social Service Department in Children's Hospitals Be Superseded by Departments for Prevention of Diseases?

DR. THOMAS L. MCKAY, Director, Division of Maternity, Infancy and Child Hygiene, Albany, N. Y. The New York State Program for Maternity and Infant Welfare.

Health Education and Publicity

Round-table discussions will be devoted to the following topics:

Use of the Spoken Word: Dialogues before various audiences, lantern slide talk, neighborhood meeting, broadcasting health information by radio, graphic talk, speakers' bureau.

A Clinic on Printed Matter: Critical examination of leaflets for popular use, by publicity experts, with regard to copy, illustrations, style and typography, etc.

Health moving pictures, playlets, publicity luncheons, exhibits of publicity matter, and other features will complete the program.

Public Health Administration

Address of Chairman.

Symposium. Next Step for State Health Departments. Discussion by prominent state health officers.

Round Table. Plans to Reduce the High Mortality from Acute Respiratory Diseases in Winter.

Control of Milk Supplies as a Public Health Measure and the Value of Pasteurization in the Prevention of Epidemics.

Report of Results of Work at the Chicago Pageant of Progress on Milk Ordinance for a Small City.

Symposium. Control of Diphtheria.

Committee Reports.

Food and Drugs

Address of Chairman, R. E. DOOLITTLE, Bureau of Chemistry, U. S. Dept. of Agriculture.

A New Method of Transporting Milk from the Country to the City (Illustrated), JAMES P. KILCOURSE, Chief, Food Inspection Bureau, Dept. of Health, Chicago, Ill.

The Present Status of Glandular Therapy (Illustrated), LOUIS KLEIN, M. D., Parke, Davis & Company, Detroit, Mich.

Important Considerations in the Relation of Food to Disease, Committee on Relations of Food to Disease, J. C. GEIGER, M. D., U. S. Public Health Service, Chairman.

Report of Committee on Problems of Canning, WM. D. BIGELOW, PH. D., Chief Chemist, National Canners Association, Washington, D. C., Chairman.

Character of "Moonshine" Liquors, ROY A. HAYNES, Federal Prohibition Commissioner, Washington, D. C.

The History of Cold Storage, Committee on Cold Storage, PETER H. BRYCE, M. D., Ottawa, Canada, Chairman.

The Place of Proteins in the Diet in the Light of the Newer Knowledge of Nutrition, H. H. MITCHEL, PH. D., Asst. Professor of Animal Nutrition, University of Illinois.

The Present Status of Our Knowledge of Vitamines, Committee on Nutritional Problems, HENRY C. SHERMAN, PH. D., Professor of Food Chemistry, Columbia University, Chairman.

The European Food Deficiency and Its Effect on Public Health. (Speaker will be announced later.)

Report of Committee on Drugs and Nostrums, HAROLD J. KNAPP, M. D., Chief Diagnostician in Charge of Laboratories, Dept. of Public Welfare, Cleveland, Ohio.

Report of Committee on Habit Forming Drugs, CHAS. E. TERRY, M. D., Committee on Drug Addictions, New York City.

Effect of Fraudulent and Extravagant Advertisements of Food and Drugs on Public Health. (Speaker will be announced later.)

The Sanitation of Bottled Beverages and Soda Fountain Drinks, JAMES P. KILCOURSE, Chief, Food Inspection Bureau, Dept. of Health, Chicago, Ill.

Coffee, Its Origin, Derivation, and Physiologic Properties, PROFESSOR SAMUEL S. PRESCOTT, Dept. of Biology and Public Health, Massachusetts Institute of Technology.

Report of Committee on Preparation, Packing and Transportation of Foods, FRED C. BLANCK, State Dept. of Health, Baltimore, Md.

Report of Committee on Retail Distribution and Marketing of Foods, WILLARD E. WARD, Dept. of Health, Brookline, Mass.

Report of Committee on Meat Inspection, W. A. LIPMAN, M. D., Swift & Company, U. S. Yards, Chicago, Chairman.

Report of Committee on Conservation and Development of Food Supplies, R. M. ALLEN, Director, Research Products Dept., Ward Baking Committee, New York City.

Vital Statistics

EPIDEMIOLOGY

The Importance of Epidemiology as an Administrative Function of Health Departments, WADE H. FROST, M. D., Surgeon, U. S. Public Health Service, Professor of Epidemiology, Johns Hopkins University.

The Influence of Epidemiology Upon Present Day Methods of Control of Communicable Disease, HAVEN EMERSON, M. D., Professor of Public Health, Columbia University.

The Epidemiological Work of State Health Departments.

Discussions: Edward S. Godfrey, Jr., M. D., New York; R. W. Pryer, D. P. H., Michigan; Frank G. Boudreau, M. D., Ohio; E. C. Levy, M. D., Virginia; D. C. Bowen, New Jersey; Charles V. Chapin, M. D., Rhode Island.

STATISTICAL EVALUATION OF PUBLIC HEALTH ACTIVITIES

RAYMOND PEARL, PH. D., Sc.D., LL.D., Professor of Biometry and Vital Statistics, School of Hygiene and Public Health, Johns Hopkins University.

Discussion: E. C. Meyer, Ph. D., International Health Board; Otto R. Eichel, M. D., New York; E. W. Kopf, New York.

VITAL STATISTICS

Development of Vital Statistics in Canada, E. S. MACPHAIL, Supt., Dominion Bureau of Statistics, Ottawa.

Mortality Statistics in South American Republics, FREDERICK L. HOFFMAN, LL. D., Dean of Advanced Department, Babson Institute.

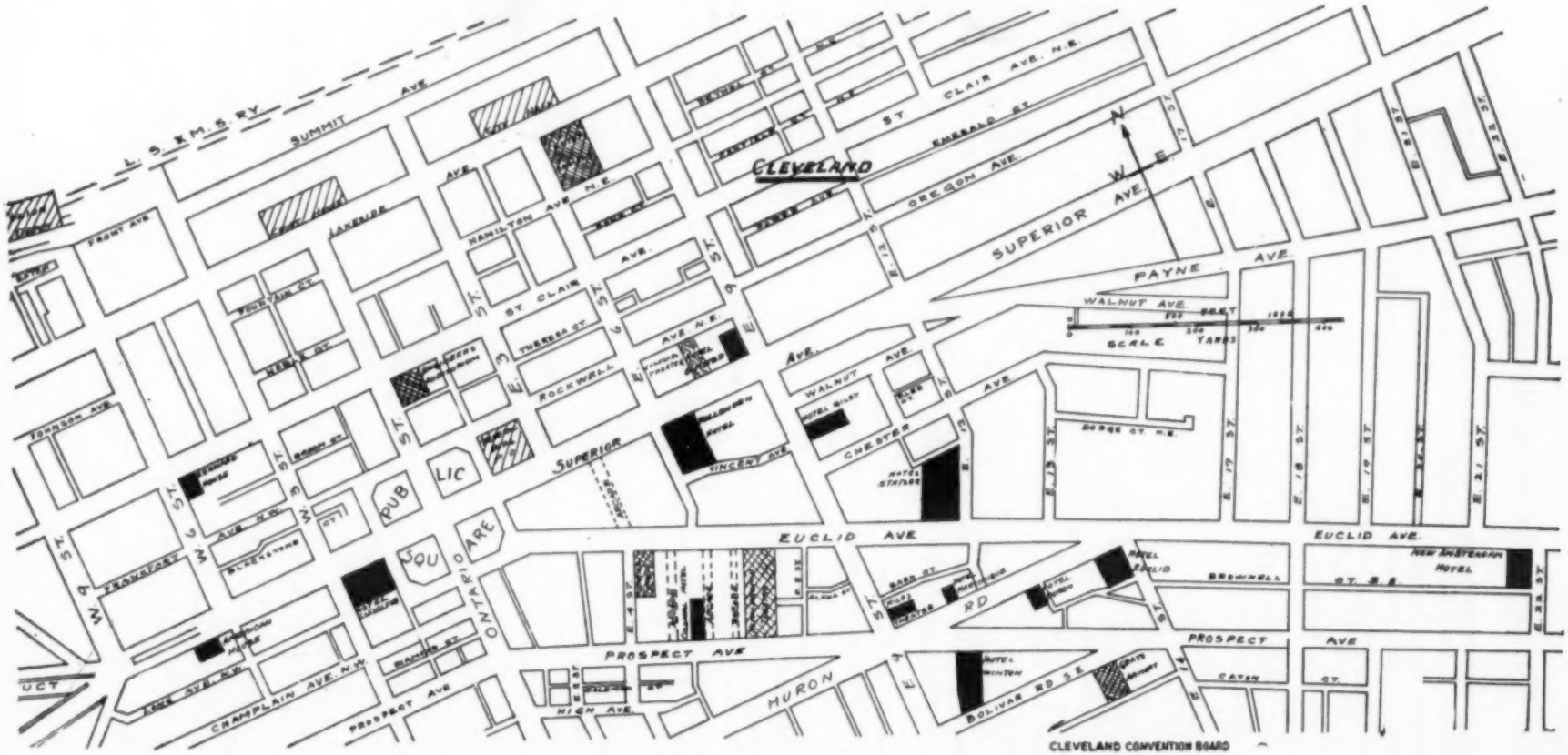
Some Practical Problems in the Improvement of the Registration of Births, OTTO R. EICHEL, M. D., Director, Division of Vital Statistics, New York State Dept. of Health.

Some Practical Problems in the Improvement of the Registration of Deaths in a Southern State, STUART G. THOMPSON, D. P. H., Director, Bureau of Vital Statistics, Florida Board of Health.

Round Table Discussion on Morbidity Reports.

REPORTS OF COMMITTEES

Public Health Climatology, DR. GEORGE T. PALMER, Chairman.



Sketch map of the downtown section of Cleveland, showing the headquarters of the A. P. H. A. convention (Hotel Statler, corner of Euclid Avenue and East 12th Street), the other principal hotels, public buildings, etc. Distance between Hotel Statler and the Public Square is slightly less than a half mile.

Institutional and Hospital Statistics (with especial reference to statistics of cancer), DR. F. L. HOFFMAN, Chairman.

Educational and Professional Standards for Statisticians, E. W. KOPF, Chairman.

Forms and Methods of Statistical Practice (with suggestions as to tables for morbidity reports), R. C. LAPPIN, Chairman.

Accuracy of Certified Causes of Death and Its Relation to Mortality Statistics and the International Classification, DR. HAVEN EMERSON, Chairman.

Registration Affairs, DR. W. H. DAVIS, Chairman.

Securing the Next International Conference on the Classification of the Causes of Sickness and Death.

Sanitary Engineering

The program of the Sanitary Engineering Section will probably consist largely of committee reports as follows:

Mosquito Control (Progress Report), M. Z. BAIR, Chief Engineer, State Board of Health, Little Rock, Arkansas.

Bathing Places, G. W. SIMONS, JR., Chief Engineer, State Board of Health, Jacksonville, Florida.

Refuse Collection (Progress Report), M. N. BAKER, Associate Editor, Engineering News-Record, New York City.

Sludge Disposal, LANGDON PEARSE, Sanitary Engineer, The Sanitary District, Chicago, Ill.

Milk Supply, H. A. WHITTAKER, Director, Division of Sanitation, State Board of Health, Minneapolis, Minn.

Industrial Hygiene

There will be a joint meeting with the Ohio Association of Industrial Physicians. There will also be an automobile trip to the splendid plant of the National Lamp Works at Nela Park, where one of the sessions will be held.

"The Tuberculosis Problem in Industry." (Illustrated.)

"Health Education in Industry." (Illustrated.)

"Industrial Lighting," Practical Demonstration of Modern Plant Lighting as Exhibited in a Factory and Engineering Laboratory.

Address of President of O. A. I. P.

"Skin Diseases in Industry."

"Computation of Partial Loss of Vision."

"Practical Mental Hygiene in Industry with Report of Cases."

Provisional Section on Public Health Nursing

Miss Margaret E. Burkhardt, Bridgeport, Conn. Presentation and Discussion of the Chapter on Public Health Nursing of the Report of the Committee on Municipal Health Department Practice.

Miss Elizabeth Holt, Dayton, Ohio. The Coördination of Public and Private Agencies in the Conduct of a Completely Generalized Public Health Nursing Service.

Miss Mary Laird, Rochester, N. Y. The Importance of Home Visiting.

Owing to the very recent organization of the Provisional Section on Public Health Nursing, this program is as yet incomplete. A more complete statement will be published later.

CLEVELAND HOTELS

Headquarters for the fifty-first annual meeting will be at the Hotel Statler, corner of Euclid Avenue and East 12th Street, in the heart of the retail shopping, business and theatre district. The Statler is admirably adapted for convention purposes, with its meeting and exhibit rooms, all of which are on the mezzanine floor. It contains 1,000 rooms, all with private baths. Most of the other hotels on the following list are within a radius of one mile from the convention headqurters and the Public Square. Cleveland has four large first-class hotels with from 600 to 1,000 rooms, and together with the smaller hotels in the downtown district, is amply able to take care of the Association delegates.

Four large national conventions will be meeting in Cleveland at the time of the A. P. H. A., and if you wish the most desirable accommodations, do not delay sending your reservation at once. The hotels are anxious to coöperate but cannot promise rooms unless you write early.

Applications for rooms should be made directly to the hotels. For convenience a reservation blank is printed herewith, which may be cut out, filled in, and mailed to the hotel of your choice. Room rates for the Cleveland hotels are given below:

AMERICAN HOUSE (150 rooms)
639-49 Superior Ave., N. W.

	Room rates
Room, one person, with bath	$2.50–$3.00
Room, one person, without bath	2.00
Room, two persons, with bath	3.00– 4.00
Room, two persons, without bath	3.00

CLEVELAND HOTEL (1,000 rooms)
Superior Ave., N. W., at Public Sq.

Room, one person, private bath	$2.50–$7.00
Room, two persons, private bath	4.50–10.00

COLONIAL HOTEL (150 rooms)
Prospect Ave., at Colonial Arcade

Room, one person, private bath	$2.50–$3.50
Room, one person, without bath	2.00– 2.50
Room, two persons, without bath	3.00– 3.50
Room, two persons, private bath	4.00– 5.00

EUCLID HOTEL (200 rooms)
Euclid Ave. at E. 14th St.

Room, one person, without bath	$1.50–$3.00
Room, one person, with bath	2.50– 3.50
Room, two persons, without bath	2.50– 4.00
Room, two persons, with bath	4.00– 6.00

GILLSY HOTEL (350 rooms)
E. 9th St. at Chester Ave.

Room, one person, without bath	$1.50
Room, one person, with bath	2.00–$3.00
Room, two persons, without bath	2.50– 3.00
Room, two persons, with bath	3.00– 4.00

THE HOLLENDEN (800 rooms)
Superior Ave. at E. 6th St.

Room, one person, with bath	$3.00–$6.00
Room, two persons, private bath	5.00– 8.00

MECCA HOTEL (120 rooms)
1862 E. Ninth St.

Room, one person, with bath	$1.50–$2.00
Room, one person, without bath	1.50
Room, two persons, with bath	3.00

NEW AMSTERDAM (350 rooms)
Euclid Ave. at E. 22nd St.

Room, one person, with bath	$2.00
Room, two persons, with bath	3.50–$4.00

OLMSTED HOTEL (300 rooms)
Superior Ave. at E. 9th St.

Room, one person, private bath	$2.50–$4.00
Room, two persons, with bath	4.00– 6.00

STATLER HOTEL (1,000 rooms)
Euclid Ave. at E. 12th St.

Room, one person, with shower	$3.00–$4.00
Room, two persons, with shower	4.50– 5.50
Room, one person, with bath	3.50– 8.00
Room, two persons, with bath	5.50–10.00

WINTON HOTEL (600 rooms)
Prospect Ave, nr. E. 9th St.

Room, one person, private bath	$3.00–$5.00
Room, two persons, with bath	5.00– 8.00

(Cut off on this line)

HOTEL RESERVATION BLANK

To .....
(Name of Hotel)

.....
(Address of Hotel)

Please reserve for me.....rooms for.....persons for the A. P. H. A. Meeting. (Cross (X) is placed after my preference.)

With bath:	Without bath:
Single room	Single room .....
Double room	Double room .....

Maximum rate per day for room.....

Minimum rate per day for room.....

I expect to arrive Oct..... If date of arrival is changed I agree to notify you at least 24 hours in advance.

Please acknowledge this reservation.

Name .....

Street Address .....

City..... State.....

EXHIBITS

Unusually attractive exhibits will engage the attention of the visitors to the Cleveland meeting. Commercial and scientific firms have contracted for space in the North Foyer and Lattice Room on the mezzanine floor of the Hotel Statler, which will be attractively partitioned and decorated. Exhibits will be open daily from 8:30 a. m. to 6 p. m., opening Monday morning, October 16, and closing on Thursday, October 19.

The list of commercial exhibitors to date includes the following firms: Colgate Co., Fairbanks, Morse & Co., Wilmot Castle Co., Lathrop Co., Will Corporation, Sanborn & Co., Gilliland Laboratories, Pepsodent Co., Lyons Sanitary Urn Co., J. B. Ford Co., Horlick's Malted Milk, and Wallace & Tiernan.

A feature of this year's exhibit, and the first of its kind at any A. P. H. A. convention, is the coöperative book-stall. The leading general publishers and all the most important medical publishers of the country are participating in this feature. Complete showings of the most important new and standard works in all fields of public health will be available. In no other place is it possible to see all these books together at one time. This will be a unique opportunity for sanitarians to acquaint themselves with the newest thought in the field, and to bring their private, as well as their department, libraries up to date.

LOCAL COMMITTEE

The committee in charge of local arrangements for the Cleveland meeting is as follows:

General Committee

Chairman: J. J. Thomas, M.D., 5005 Euclid Ave.

Vice-Chairman: Roger G. Perkins, M.D., Medical School, Western Reserve University.

Secretary: E. A. Peterson, M.D., 206 Electric Bldg.

Committee Chairmen

Finance: R. H. Bishop, Jr., M.D., Lakeside Hospital.

Entertainment: Miss Ruth Stone, 508 Electric Bldg.

Exhibits: H. L. Rockwood, M.D., City Hall.

Registration, Information and Transportation: Mr. G. L. Bour, Convention Board, Chamber of Commerce.

Hotels and Rooms: Mr. George A. Bellamy, Hiram House, 2730 Orange Avenue

Meeting Rooms and Projection Apparatus: G. E. Harmon, M.D., Medical School, Western Reserve University.

Publicity: Mr. Guy M. Wells, Secretary, Academy of Medicine.

RAILROAD RATES TO CLEVELAND

As at the New York City meeting, reduced fares of one and one-half times the regular single trip rate to Cleveland will be available to the majority of members of the American Public Health Association, on the identification certificate plan. The reduced rate has so far been granted by passenger associations covering practically the entire United States and Canada, and it is expected that the other American passenger associations will also grant the reduced rate.

Dates of Sale

Dates of sale (starting dates) vary according to the location. In general they cover the period of October 12-18 inclusive. Inquire of your local agent for definite information on starting dates.

Final Return Limit

Tickets will be validated at Cleveland by the respective agents at the regular ticket offices of the lines used, on any date after arrival. They must be used returning to reach the original point not later than midnight of October 25.

Who Are Eligible

Any member of the Association, and any dependent member of his family may secure reduced rates. Only one identification certificate is required for each family.

Identification Certificates

Identification certificates will be mailed to every member of the Association about September 1. These will entitle you to the special fare when presented at the local ticket office. Without the identification certificate, a reduced rate cannot be obtained. If, by any chance, you fail to receive your certificate by September 15, and expect to attend the Cleveland meeting, write to the Secretary of the American Public Health Association, 370 Seventh Avenue, New York City, enclosing a self-addressed envelope, and a certificate will be mailed to you at once.

CLEVELAND, THE CONVENTION CITY

Humming with industrial activity; teeming with business enterprise and progressiveness; mindful always of maintaining its proud record of civic accomplishment; ever careful of the health, comfort and recreation of its people and every inhabitant a booster of his city—this is Cleveland.

Probably no city in the United States today outranks Cleveland in the stability of its growth. Approximately one million people live in Cleveland and in its many suburban residential districts. Cleveland proper is the fifth city in the country in population and second to none in the possibilities for future growth and expansion.

This is made possible by Cleveland's exceptional geographical location and the resultant commercial advantages. The city's position upon the shores of Lake Erie midway between rich ore deposits of the Lake Superior region and the vast coal fields of Ohio, Pennsylvania and West Virginia, and close to the extensive limestone quarries of Ohio, make it one of the largest iron and steel centers of the country and this industry forms its leading activity.

Detroit-Superior High Level Bridge

Cleveland has convenient transportation facilities by rail and water and is situated where raw materials may be collected easily and at a low cost. It is the center of a wonderful market of unlimited production and buying power. Its four thousand manufacturing plants have an annual output exceeding $750,000,000 in products.

Cleveland's manufacturing is remarkably diversified, including the production of iron and steel; aluminum, iron, steel and brass castings, bolts and nuts; wire springs, wire fence and wire nails; tools and machine tools; hoisting and conveying machinery, screws and tacks; railroad supplies; stoves for oil, gas and coal; hardware; sewing machines; office furniture and multigraphs; scientific instruments; chemicals; paints and varnishes; oils and greases; automobiles, electric carbons; batteries and other accessories; and steel ships, wire rods, barb wire, piano wires, electric wires, cable and wire ropes are produced in great quantities; while plates, sheets and miscellaneous products go to make up the balance of the big total. Cleveland's part in the automobile industry is not confined to the production of cars. The city leads in the production of automobile parts and accessories. Frames, axles, bearings, fittings of various sorts, bodies, carburetors, crank shafts, motors, wheels, tubings, forgings, stampings and castings for every make of automobile are produced in large quantities.

Cleveland Museum of Art, Wade Park

In 1876, Charles F. Brush, a Cleveland citizen and inventor, gave his first demonstration of his arc lamp in the public square in Cleveland. From Cleveland, too, a mighty influence is exerted upon lighting problems of the world, for here is located the headquarters of the National Electric Lamp Association. Executive offices and the laboratories of this company occupy a beautiful tract of seventy-five acres, known as Nela Park. It contains buildings for administration, research, engineering and operating. It stands forth preëminently as a seat for scientific research work. From the laboratories come reports and testimony at fre-

Municipal Bathhouse, Edgewater Park

quent intervals of innovations, improvements and corrections of electric lighting devices.

Cleveland has 14.2 miles of lake frontage, protected by a breakwater 5¾ miles in length, constructed by the Federal Government at a cost of approximately $6,000,000 with an additional $1,000,000 expended in dredging and maintenance. The harbor has a spacious entrance, and the extension of East 9th St. has made possible the construction of two passenger piers affording ample dockage for passenger and freight service from Detroit and Buffalo. These docks are located east of the harbor entrance, while the harbor to the west affords unexcelled facilities for handling and storage of iron ore. The Cuyahoga River, which is navigable for several miles and flows into Lake Erie at Cleveland, is also lined with docks adjacent to which are many furnaces, factories and lumber yards. Many of these docks are equipped with ore handling buckets having a "grab" of ten, seventeen and twenty tons of ore. An ordinary ore car may be unloaded by three "grabs" of a single bucket.

The largest Lake freight carriers are over 600 feet long and have capacities up to 12,000 tons. More than 800 ships ply the Great Lakes during the seven or eight months the ports are not icebound. In the coal, ore and grain trade, about 450 bulk freight ships are employed, of which approximately 80 per cent are owned or managed by Cleveland firms.

At a special city election the erection of a new Union passenger terminal by the Cleveland Union Terminals Company was authorized. This station, the estimated cost of which is $50,000,000, is planned to occupy the property fronting on the Public Square between Ontario St. and Hotel Cleveland. All roads entering the depot will be electrified. Railroads which have signified their intention of using the proposed station are New York Central lines, the Cleveland, Cincinnati, Chicago and St. Louis R. R., and the New York, Chicago and St. Louis.

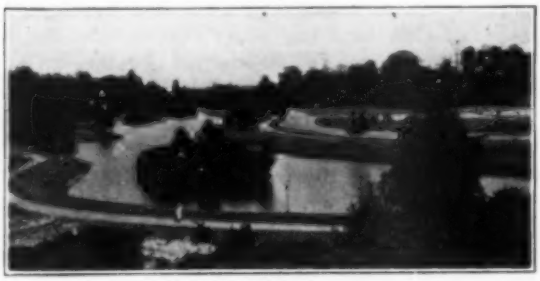
The Cleveland Chamber of Commerce enjoys high reputation for its activity and is closely identified with all of the city's important developments and achievements. In addition to its many departments, the following are the principal subsidiary organizations: Bankers Trade and Acceptance Council; Cleveland Automotive Association; Cleveland Housing Company; Convention Board; Cleveland Safety Council; Flour Club; Grain and Hay Exchange; Manufacturers and Wholesale Merchants Board; Military Committee; Retail Coal Dealers Board; Retail Merchants Board.

The remarkable growth and development of Cleveland has never been accelerated by any pronounced boom, but is rather an outcome of a continued and persistent healthy growth, also the result of remarkable expansion and development of its civic, industrial, commercial and financial life.

The original mould in which Cleveland was cast was of the New England pattern. The lands in the northeastern corner of Ohio had been granted by the United States Government to Connecticut, after the Revolu-

Cleveland Y. M. C. A.

tion in the settlement of claims made by the seaboard states to western territory, under old colonial grants. The state sold the larger part of its possessions in Ohio to a group of Connecticut men known as the Connecticut Land Company. In 1796 that corporation sent a party of surveyors headed by General Moses Cleaveland to lay out a town site at the mouth of the Cuyahoga River. The embryo city was named after its chief founder. After the usual hardships and discouragements of settlements in the wilderness, Cleveland began to gather headway about 1830, when its population still numbered 1,076. In 1836 the town was incorporated as a city and the census of 1840 showed that it contained over 6,000 residents. By 1850 the population was 17,000 and from that time the rise of Cleveland was very rapid. The period 1855 to 1860 saw the beginning of manufacturing in Cleveland. Prior to that time shipping and ship building were the principal business activities aside from wholesale and retail merchandising. Since 1860 Cleveland has risen from the rank of fortieth city in population in the United States to fifth city in 1920.



Scene in Rockefeller Park

Cleveland is the fourth city in the U. S. as a financial center. Its choice as the location of the Federal Reserve Bank for the fourth district was made not only because of what it has accomplished, but also because the city bids fair to become increasingly important.

The climate of Cleveland is of the kind which has proved most favorable to the full development of modern civilization. The seasons are strongly marked but the waters of Lake Erie temper the extremes of winter and summer, delay the frosts of autumn and hold back the vegetation in the spring enough to make fruits more dependable than they are a little farther from the shore of the Lake.

These conditions have a favorable influence upon the health of a city long noted for its low death-rate. The natural drainage is excellent and the broad streets are swept by winds which carry away the atmospheric impurities inseparable from the life of large centers of industry and trade. But the remarkable small mortality is also due in part to the exceptionally large proportion of vigorous young men and women who gravitate to so prosperous and attractive a city.

Few cities have been so favored by gifts from their own citizens. The park system which has hardly a rival in America for extent and for the variety of its natural beauty and attractions, is the outgrowth of notable giving by Cleveland men. Parks and boulevards extend in a great chain around the larger part of the city, lacking only a few connecting links to make a complete girdle of green in summer. Gordon Park and Edgewater Park, the latter on the West Side, as the great section west of the Cuyahoga River is called, reserve for the people forever two miles on the lake front and provide bathing beaches, boating facilities and playgrounds swept by cool breezes in summer. There are nine parks with from 85 acres to nearly 300 each and the park system includes numerous smaller parks and many miles of boulevards. Deep ravines, natural waterfalls, fine old forest groves, pretty streams and the shore of a great lake combine to give these pleasure grounds rare charms for lovers of nature.

An aggressive civic step which has attracted world-wide attention to Cleveland is the Group Plan for public buildings. A "T" shaped tract of land approximating 104 acres in the heart of the city, and known as the "Mall" will ultimately contain all of Cleveland's municipal buildings. The Federal Building, costing $3,870,000, the Cuyahoga County Court House, costing $4,500,000, and the City Hall, costing $3,330,000, are already occupied. Appropriations are outstanding for a public library and a Criminal Court building upon the "Mall." The completed project will represent an outlay in excess of $30,000,000. The Public Hall, opened in the Spring of 1922, also located on the "Mall," constitutes another unit of

the "Group Plan." Its auditorium accommodates 12,500 persons, while upwards of 70,000 sq. ft. of floor space is available for exhibits. A permanent city planning commission helps the city toward right decision on proposed reforms, housing, transportation, recreation and other public welfare matters.

In the country, about 8 miles from the center of the city, Cleveland has already created a very different group of public buildings. On a farm of more than 2,000 acres on high land a fine sanitarium for tubercular patients, a home for aged and infirm, with cottages where old couples can spend their last years together, and all the necessary buildings to make such a city farm complete, stand as a monument to the generosity and kindliness of the people of Cleveland. Upon the same tract of land is the municipal house of correction, with ample fields about it for outdoor work and shops for winter employment.

There are few areas of congested population in Cleveland, as the city is noted for the great number of home owners. According to the 1910 Federal census 35 per cent of Cleveland homes were owned by the occupants, being second of the American cities in this respect.

The city's education facilities are notable. In the city system are 110 grade schools, twelve high schools of which three are technical high schools and nine junior high schools. Parochial schools number fifty-seven. Cleveland is the seat of Case School of Applied Science, Western Reserve University (including the College of Women) and of St. Ignatius College. Case offers courses in civil, mechanical, electrical, mining, metallurgical and chemical engineering and physics. Western Reserve has in addition to Adelbert College, schools of medicine, law, dentistry, and pharmacy, and courses in education and applied social science. St. Ignatius confers baccalaureate degrees and gives courses in philosophy, language, literature, history, science and mathematics. The Public Library has forty-six branches and 590 distributors. In gross circulation of books, the Fifth City ranks third in the United States, and in per capita circulation, first.

In Cleveland today are many of the finest retail stores and restaurants in the United States. Merchants in the Euclid Avenue district, as though spurred by the incentive that wide streets and sidewalks and magnificent buildings offer, have striven to outdo one another in making their establishments attain perfection in beauty and artistic decoration. This thought is unconsciously conveyed to the visitor and the result is that Cleveland's shopping district has become nationally famous.

The same idea has been carried out by theatrical enterprises and in 1920 seven elaborate playhouses were erected augmenting Cleveland's previously ample facilities for the amusement of theatre lovers. These playhouses, for the drama, vaudeville and motion pictures, are the last word in architectural design. Four of them are located in the upper section of Euclid Avenue recently occupied by mercantile establishments. These theatres which alone provide more than 11,000 seats, are within the same block, now known as "Playhouse Square."

The map published in this issue will be of assistance in selecting your hotel.

(Illustrations and data by courtesy of the Convention Board, Cleveland Chamber of Commerce.)

Medicine. *Analytical Reviews of General Medicine, Neurology, and Pediatrics. Edited by David L. Edsall, M.D., Harvard Medical School; John Howland, M.D., Johns Hopkins Medical School; associate editor, Paul D. White, M.D., Massachusetts General Hospital.*

This new quarterly is designed to chronicle in important monographs the rapid advances taking place at the present time in medicine in many different countries, thus assisting the busy practitioner or the non-specialist student to keep abreast of the most modern contributions. The first issue (May, 1922) contains two exhaustive studies on "The Therapeutic Use of Digitalis," by Dr. G. Canby Robinson of Vanderbilt University Medical School, and "The Treatment of Meningococcus Meningitis," by Dr. Kenneth D. Blackfan, of Johns Hopkins Hospital. Both are models of scientific form and are an indication of the quality which may be expected from the publication in future. As in the meningitis paper, many of the subjects will probably be on the borderline between the fields of public health and internal medicine.

EDITORIAL SECTION

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NEW EDITIONS OF OLD MASTERPIECES

If we delve into the history of public health, we find much original research of great value and importance. There are many studies which have molded our present-day thought. Out of these investigations and the opinions deduced from them has evolved modern sanitary science. Such work should not be permitted ever to become stale. Some books, as W. T. Sedgwick's classic *Principles of Sanitary Science and the Public Health*, will never be out of date. Science may progress but the fundamental principles laid down do not change materially and the historical background is, obviously, immutable. There are some valuable works of previous years, however, which would be of great service to the present period if they were brought strictly up to date. For instance, the notable *Report on National Vitality* of Irving Fisher, which was issued in 1908, would be of the utmost value if the statistics could be brought up to 1922. The report, which is now difficult to obtain, is still very useful, but a new edition would be extremely so. Likewise, Dr. C. V. Chapin's excellent survey of State Public Health Work, made in 1914 and now out of print, ought to be repeated in 1924 to show the progress of a decade. The U. S. Public Health Service pamphlet on the "Organization, Powers, and Duties of Health Authorities," isued in 1912, would be a reference book to be constantly used if it were brought up to date. One might go on citing other instances of important documents, which, while always estimable, have now reached the stage where another edition is necessary. To keep such works fresh and current should be the duty of those responsible for their original publication. Thus would they foster the cause of sanitary science and contribute to the advancement of public health.

J. A. T.

THE ORGANIZATION OF PUBLIC HEALTH NURSING

More and more it is becoming clear to students of organization that the part local public-health nurses play in the promotion of the health program of the state depends largely on the existence and influence of a state director of public-health nursing. In those fortunate states where an experienced public-health nurse is in charge of a state bureau of public-health nursing, which, by virtue of its equal rank with other bureaus, is able to share in the promotion of their programs, we find the public-health nurses and the agencies employing them throughout the state recognizing the leadership of the state department of health and considering themselves units in the state plan and participants in the state program. The state director of public-health nursing, though usually without controlling power over local agencies, exercises very often a strong, helpful and unifying influence over the development of public-health nursing all over the state and secures the coöperation of local nurses in large measure in the state program.

The importance of this single leadership of local public-health nurses by a state public-health nurse, whose qualifications and experience are such as to command their confidence and respect, cannot be overestimated if the state has a definite program for the development of health work in the performance of which it believes local public-health nurses have an important share.

There are other good reasons for the maintenance of a bureau of public-health nursing of equal rank with other bureaus in the state department of health. These have been pointed out by Dr. Allen Freeman in the March issue of the *Public Health Nurse*, and by Miss Rose Ehrenfeld in the March issue of the AMERICAN JOURNAL OF PUBLIC HEALTH. Dr. Robert Paterson in his article in the August issue of the AMERICAN JOURNAL OF PUBLIC HEALTH reaches the same conclusion by a somewhat different line of reasoning.

The writer of these brief paragraphs does not want to reiterate any of the arguments which are presented and sufficiently supported by these authors, but desires only to focus the attention of those who are interested in this problem of organization on the need of the local public-health nurse for and her response to state leadership, and to assert that effective leadership of public-health nursing can only be had when the state concentrates responsibility for its development in one person and gives her a position which enables her to exercise the leadership for which she is held responsible.

ELIZABETH G. FOX, R. N.

OF INTEREST TO SANITARY ENGINEERS

The JOURNAL takes pleasure in announcing that Mr. Mayo Tolman, formerly a member of its staff of editorial assistants, will again be a regular contributor to the notes section, and will cover current literature of sanitary engineering. Mr. Tolman's experience in practical engineering work for the United States Public Health Service, and in state departments of health, is a guarantee of his competence to conduct a valuable abstract service in this field. He is at present in charge of a research for the National Industrial Conference Board.

A PERNICIOUS TENDENCY IN STATE GOVERNMENT

A distinct menace to efficient state health administration is found in the tendency to make executive heads of state health departments appointable and removable without restriction by the governors of states. Illinois in 1917 adopted this policy, and more recently Ohio has followed suit.

The avowed purpose of the reorganization has been to secure greater efficiency and economy. It is stated that the executive head of the state in order really to be the executive head should have the right to select subordinate officers who will carry out his policies. There is just enough plausibility to this argument to make it dangerous, for the recommended method is that which is followed with success by business corporations in which control is centralized in the general manager. If executive heads of states were selected and retained with the same intelligence as executive heads of corporations, and if governors could, and would, exercise their powers as sanely as the heads of corporations, the new plan of state administration would certainly be the sensible one. Unfortunately, however, the body politic is not at all comparable to a business corporation, so that administration methods that will work with one will not work with the other. In many states the governor holds office for only two years, and he is subject to great political pressure, so that to give him a free hand to appoint and remove department heads is simply opening the door to the old spoils system. In many states the result will be that even where capable department heads are selected, they will be rotated in office so often that they cannot possibly carry out a constructive program of work.

In both Ohio and Illinois the new regime was promptly followed by changes in the state health officerships. Is there any guarantee that under the new order such changes will not continue with each change of administration? This editorial is in no sense a reflection upon the new men who have assumed office in these situations. They are entitled to high regard and if permitted to remain in office will undoubtedly give good service. Whatever they will accomplish, however, will be in spite of the new laws and not because of them.

The principle of making departmental administration subject to the whim of politically elected governors is fundamentally unsound. Efficient departmental administration rests upon two important factors; first intelligent selection of the department head based upon technical qualifications and general fitness for service, and second, continuity of office so long as efficient service is rendered. The new plan threatens to defeat both of these requirements.

Of all public institutions, the educational systems have been the most efficiently managed and that because they have been protected from spoils politicians. Health departments require the same protection, and health officers should be appointed on the same non-partisan basis and should hold office during faithful service without regard to political changes.

BEFORE SCHOOL BEGINS

Last call for summer vacations before the public schools open again to receive the hosts of American children, brings to mind the fact that summer is the best time of the year for children to be brought to their highest peak of physical fitness. The vacation time should naturally do this, but it is also the best opportunity to correct minor physical defects in children. Adenoids, enlarged and diseased tonsils, bad teeth, etc. should be attended to now, as Dr. Olin, of

Michigan suggests. Parents who allow the vacation to pass without attending to the defects that can be corrected, and then take the children out of classes during the school year, are making a serious mistake. Children easily become discouraged when they are unable to keep up in their school work on account of illness or minor operations, and when they see their classmates forging ahead, they may, all too readily, fall into the "I don't care" attitude. Such defects, if allowed to go uncorrected, may poison their systems and keep them far below their best efficiency. A good final warning to parents is: Take your child to a doctor now and save time.

AMENDMENTS TO THE CONSTITUTION

Notice is hereby given that the following amendments to the Constitution of the Association will be considered by the Governing Council at the Cleveland meeting:

AMENDMENT NO. I

Article III of the Constitution shall be changed to read as follows:

Governing Council

COMPOSITION—There shall be a Governing Council consisting of:

1. The officers of the Association.

2. Thirty members of the Council,, to be elected with due regard to geographical and membership considerations, by and from the membership of the Association, for three-year terms, one-third retiring each year.

(At the 1922 Annual Meeting, ten members shall be elected to replace the fifteen outgoing Councilors, and this procedure shall be repeated at the 1923 and 1924 Annual Meetings.)

3. The Chairman, Vice-Chairman and Secretary of each Section.

4. A representative to be appointed by the governing body of each affiliated state health society, to serve for one year on the Governing Council.

Note—The changes involved in the foregoing amendments are the following:

a. In A2 the elective Councilors are reduced from 45 to 30 in number. This is to compensate for the increase under A3.

b. In A3 the number of section representatives is increased from one to three per section.

c. In A4 the expression "affiliated society" is changed to "affiliated state health society."

AMENDMENT NO. II

Section E2 in Article III shall be changed to read as follows:

E. FUNCTIONS: The functions of the Governing Council shall be:

* * * *

2. To establish Sections of the Association, **to combine or discontinue them when necessary,** to maintain coördination among them, **and to formulate rules governing the policies of Sections.**

Note.—The **bold type** portions have been added to the original article.

AMENDMENT NO. III

After Section F, under Article III, the following shall be added:

G. MEETINGS of the Council shall be called by the Executive Secretary at the request of the President, or at the request in writing of any twelve Councilors. In the latter case the call to meeting, issued at least twenty days in advance, shall state the purpose of the meeting.

This notice is published in order to comply with the Constitutional provision that thirty days notice be given of all proposed changes in the Constitution.

The Committee on Reorganization will also propose amendments to the By-Laws, but these changes cannot be given in advance of another meeting of the Committee. Advantage will be taken, therefore, of the provision that notice of change in the By-Laws need not be sent to the Governing Council earlier than fifteen days before the Annual Meeting.

ASSOCIATION NEWS

LIST OF NEW MEMBERS

Proposed for election to the A. P. H. July 1 to July 31, inclusive.

Names of Sponsors are set in **Bold Face Type.**

Names of New Members are set in Light Face Type.

CALIFORNIA

D. O. Jordan, M. D., Chicago, Ill.

Albert G. Bower, A. B., M. S., M. D., Hanford, Calif., Part-Time City Health Officer.

CANADA

M. M. Seymour, M. D., Regina, Canada.

Hon. J. M. Uhrich, M. D., Minister in Charge Bureau of Public Health.

MASSACHUSETTS

Paul Eaton, M. D., Quar. Sta., Gallops Island, Boston, Mass.

John A. Ceconi, M. D., Dept. of Health, Boss-Mass., Medical Director.

Wm. B. Keeler, M. D., Dept. of Health, Boston, Mass., Medical Inspector.

Louis P. Verde, M. D., Dept. of Health, Boston, Mass., Medical Inspector.

MEXICO

A. Brioso Vasconcelos, M. D., Mexico City, Mexico.

Fernando Ocaranza, M. D., 2 a San Juan de Letran, No. 19 Mexico, D. F., Surgeon.

NEW MEXICO

George S. Luckett, M. D., Santa Fe, N. M.

Edgar B. Bearer, M. D., Los Lunas, N. M., County Health Officer (full time).

NEW YORK

Mr. A. W. Hedrich, New York, N. Y.

Mr. Walter Clarke, National Health Council, 370 Seventh Ave., New York, N. Y.

TEXAS

A. J. McLaughlin, M. D., Washington, D. C.

Wilson T. Davidson, M. D., Dallas, Texas, Director of Public Health.

EMPLOYMENT BUREAU

HELP WANTED

Help wanted announcements will be carried free in this column until further notice. Copy goes to the printer on the 8th of each month for publication on the 20th. Mail to New York office as early as possible.

In answering keyed advertisement, please mail replies separately to editorial office in New York City. In replying give age, professional training, salary requirements, previous positions held and three or more references.

Wanted: Full-time health officer for progressive southern city, 12,000 inhabitants, railroad center, farming country, no industrial establishments. Good salary and two weeks yearly vacation with full pay. Address 493 C. C. C., care of this JOURNAL, New York address.

Wanted: Physician with experience in public-health activities to fill position as assistant to health officer in a southern city with well organized health department. Young man preferred. Duties chiefly those of school physician and physician to the indigent. Salary $2,500 to $3,000, depending on experience and capability. Address 494 M. X., care of this JOURNAL, New York address.

Wanted: Technician in the laboratory of this department. Character of work: bacteriology, milk and water analysis, and chemical examination of foods for preservation. Address Board of Health, Perth Amboy, N. J.

Wanted: Statistician for responsible position in national child-health work. Apply Child Health Committee, 532 Seventeenth Street, Northwest, Washington, D. C.

POSITIONS WANTED

Positions wanted announcements will be carried in this column. The charge is $2 per insertion. Copy should be received at this office by the 8th of the month.

Wanted: Public-health work by recent graduate of public-health school S. B. in biology and public health, Mass Institute of Technology, C. P. H. in Harvard Technology School. Fourteen months' experience in public-health administrative work. Address A. B. 218, care of this JOURNAL, New York.

Wanted: Veterinarian, graduate Ohio State University. Experienced food and dairy inspector open for engagement September 1. Seven years' experience in food, milk and meat inspection, including laboratory examination. Formerly inspector in charge of market and milk for State of Georgia. At present engaged in California. Will consider any location. References from state and city officials. Address 222 L. A. B., Box 963, Fresno, Cal.

Wanted: Physician, aged 38, with three years' experience with U. S. P. H. S. in city and county-health work, would like position of full-time city or county health officer. Minimum salary, $2,400 per year. Address K. R. G. 221, care of this JOURNAL, New York address.

Wanted: Position in north as bacteriologist. Young woman with experience in public-health laboratory work. Minimum salary $2,000. References and full history of training and experience furnished on application. Address 224-27, care of this JOURNAL, New York address.

Wanted: Position as director of general or research laboratory or member of medical group, is desired by physician who has, for a number of years, directed important government laboratories. Address 223 X, care of this JOURNAL, New York address.

Wanted: Physician, Harvard M. D. and C. P. H., with eight years experience in every branch of public-health work, wishes position as life insurance examiner, bacteriologist, vital statistician, college physician, child hygiene worker or city health officer. Minimum salary, $3,000. Address Dr. W. L. Holt, 1718 Cornell Ave., Knoxville, Tenn.

Wanted: Position as bacteriologist or health officer in city or state health department by physician, graduate of Harvard Massachusetts Institute of Technology, School of Public Health. Six years experience in public-health work—last four years as director of laboratory for large city. Thoroughly trained and experienced in all branches of public-health work. Can do pathological work. Excellent references. Married. Salary desired not less than $3,000 per year. East or South preferred but will go anywhere. Available immediately. Address 225 G., care of this Journal, New York address.

Wanted: Position by young woman technician with M. S. degree (Michigan), one year of municipal laboratory experience, and one year of post-graduate work in bacteriology, histology, serology, blood chemistry and clinical miscroscopy. Well trained in the technique of lytic principle investigation. Opportunity for some research work also desired. Available in September; salary, $1,800. Address 226 F. P., care of this Journal, New York address, or Dr. Philip Hadley, College of Medicine, University of Michigan.

Wanted: Position as chemist and bacteriologist in a publichealth laboratory, health officer, or a combination position. Thoroughly trained in food chemistry and chemical and bacteriological control of water purification. Nine years experience in public-health laboratory. Graduate with an M. S. degree in public health. Also two years experience as health and sanitation officer. Will accept a position in the South or West. Address 227 C. S. L., care of this Journal, New York address.

Wanted: Laboratory director. Man, with experience in city and state laboratories who for past four years has successfully directed laboratory of large city, desires a position where knowledge and executive ability will be of service. Hold A. M. degree and have done some teaching in middle western university. Address 228 C. B., care of this JOURNAL, New York address.

BOOKS AND REPORTS REVIEWED

Nutrition and Specific Therapy. *Dorothy E. Lane, The Macmillan Company,* 1912. *Pp.* 185. *Price* $1.50.

The scope of this little book on nutrition can best be appreciated by the following titles of its chapters:

1. Explanation of the Subject of Nutrition.
2. Food Preparation
   Raw Foods and Effects of Cooking Upon Foods and Conclusions.
3. Meat or Mixed Diet versus Vegetarian or Lacto-Vegetarian Diet.
4. Auto-Intoxication.
5. Bacteriology of the Digestive Tract.
6. Reforming the Intestinal Flora.
7. Diet in the Common Diseases.
8. Infants' Diets; Children's Diets.
9. Vitamines.
10. A Few Healthful Recipes; Some Invalid Recipes.
    Miscellaneous subjects.

The term "Specific Therapy" in the title refers to dietetic therapy and not to pharmacologic therapy. The author is evidently well acquainted with both the literature of this subject and the clinical application of dietetics, and has endeavored to include these two aspects in this short treatise. As far as such a broad aim can be accomplished in such small compass, the result has been successful. To our knowledge, there is no work of less than 200 pages which includes so much of the theory and practice of nutrition in dietetics. It should therefore be of value to the rapidly increasing number of workers who are actively interested in this field.

The main criticism of the work is incidental to the large field which it endeavors to cover. It may be questioned whether it is worth while to attempt to prescribe in paragraphs covering less than one page, the diets of complex disorders, such as kidney disease, gout, infantile diarrhea, eczema, and many other diseases. The work as a whole, however, fills a need, and is to be commended.

ALFRED E. HESS, M.D.

The Newer Knowledge of Nutrition. *E. V. McCollum, Ph.D., Sc.D. New York: The Macmillan Co.,* 1922. *(2nd ed. Rev.) Pp. xviii* +449. *Price* $3.80.

The first edition of this volume has been almost entirely rewritten and greatly enlarged to bring the subject matter up to date and to present in fuller detail the historical background for "the newer knowledge of nutrition." As in the earlier edition, the emphasis is placed on the author's contributions in this field, while the earlier and contemporary work of others is discussed and interpreted in the light of his experience. The personal bias thus introduced, while making interesting reading, gives the impression of a record of personal achievement rather than a well-rounded and impartial survey of the many contributions from different sources which helped to build up our present conception of nutritional requirements.

The first five chapters are more or less historical, the attempt being made to review the earlier work on nutrition and to show the steps leading up to the present biological methods of analyzing foods. In this section occasion is taken to criticize much of the earlier work of Osborne and Mendel on the nutritive value of proteins in which protein-free milk was used as one of the constituents of the basal ration. Inasmuch as Osborne and Mendel in their later publications explained fully the part which protein-free milk played in their earlier work, this criticism would seem rather unnecessary.

With the criteria for estimating the nutritive value of foods established, an interesting chapter on the dietary properties of individual food-stuffs and one on the vegetarian diet follow, after which, under the general heading, "The Dietary Deficiency Diseases," separate chapters are devoted to scurvy and beriberi. These would thus seem to constitute the only deficiency diseases, although in later chapters xerophthalmia, rickets, and pellagra are also discussed in their relation to dietary deficiency.

The chapter on scurvy is interesting in showing how completely the author's viewpoint has changed since the first edition to conform with the earlier conclusions of Holst and Frölich. The chapter on beriberi includes an interesting discussion of the possible relationship between epidemic dropsy, war edema and wet beriberi, and that on xerophthalmia discusses the possible association of hemeralopia and nyctalobia, or night-blindness, with lack of vitamin A.

The chapter on rickets consists largely of a discussion of the experimental work in the author's laboratory on the relation of calcium, phosphorus, and other factors to this condition. A tendency to misinterpret the work of others is to be seen in the discussion of Sherman and Pappenheimer's paper in which was first reported the prevention of rickets in rats by the administration of a phosphate. These investigators state in the conclusion of their first report that the prevention of rickets by the addition of potassium phosphate to the basal ration "does not imply that in these cases the cause of rickets was necessarily a deficiency either of potassium or phosphorus. The quantitative relations of the inorganic ions, rather than an absolute deficiency of any one of them may have been the determining factor." In spite of this clear statement, McCollum in referring to this paper, states, "Their data would lead one to the conclusion that the disease is brought about by phosphorus starvation," and continues, "Instead of lack of phosphorus *per se* being the cause of the rickets in their animals, McCollum, Simmonds, Shipley and Park regard the cause as due to an unfavorable ratio between calcium and phosphorus in the absence of sufficient of the organic factor which plays a rôle in the production of this syndrome."

Separate chapters are devoted to the chemical properties of vitamins A and B, but a similar treatment of vitamin C is confined to brief mention of some of the earlier studies on its stability. With the emphasis that is placed on technique throughout the book, it is unfortunate that the technique for the quantitative determination of vitamin C developed by Sherman, LaMer and Campbell, and their study of the stability of this vitamin should not be included.

The most interesting parts of the book are the closing chapters in which the author discusses the dietary habits of peoples in different parts of the world in their correlation with the results of animal experimentation, and outlines his views on the essentials of an adequate diet. A simple rule to follow is embodied in the sentence "It must suffice here to say that aside from the liberal use of milk in the many ways in which it can enter into the diet without in any way disturbing our established food habits, the desired end is to be attained through the daily consumption of the vegetables we class as greens or pot-herbs and through the practice of eating salad dishes twice a day."

The book is abundantly illustrated and many references to the original literature are given at the end of each chapter.

S. L. SMITH.

✝

Mentally Deficient Children, Their Treatment and Training. *G. E. Shuttleworth, G.E., B.A., M.D., and W. A. Potts, M.A., M.D., Philadelphia: P. Blakiston's Sons & Co. (fifth edition),* 1922. *Pp.* 317.

The aim of this volume is to provide the medical profession and others concerned with the handling of mentally defective children with a ready handbook of information and points of view. It is copiously illustrated and as nearly up to date in its material as we should expect from British authors, who are not thoroughly acquainted with the present status of investigations by American psychologists.

Several matters relating to problems of public health are emphasized, for example, urgent advocacy of prohibition by legislation of all proprietary medicines containing morphia and other narcotics used with infants. Parents often attribute cases of mental deficiency to convulsions during dentition. As a matter of fact, the authors assert there is no clear distinction between infantile convulsions and epilepsy. Most children who have them while teething are of neurotic heredity, if not epileptic. The conviction that epilepsy is essentially toxic in origin is here held, so large a percentage of cases having been found to have thyroid affections.

Attacks of smallpox, malaria, and other infectious fevers in the mother shortly before conception may have serious effects on the mental capacity of the offspring, and toxins during pregnancy produce effects inversely proportional to the mother's powers of destroying them. Some infections are more dangerous than others from this standpoint, and none can be disregarded. Again, caution is necessary in accepting statements of parents that their children's mental deficiencies date from attacks of whooping cough, scarlet fever, measles, etc. Whatever contagious disease he may acquire, probably no child becomes feeble-minded after the age of four or five, when the brain reaches almost its full weight. However, feeble-mindedness is significant in furnishing ready susceptibility to contagion because of its accompanying general physical subnormality. Also, a marked predisposition to tuberculosis is known.

Persistent defects of nutrition, in spite of good feeding, are symptomatic of defect of original constitution and are not infrequently associated with mental deficiency. But injudicious feeding, especially lack of vitamines, may have deleterious effect on mental growth. With improved health conditions through proper nutrition and prevention of epidemics, some forms of mental deficiency may be substantially diminished, and in turn a condition conducive to contagious diseases be reduced.

MIRIAM C. GOULD.

✣

The Vitamines. *H. C. Sherman and S. L. Smith. The Chemical Catalogue Co., Inc., 1922, Pp. 273.*

This is one of a series of scientific and technologic monographs on chemical subjects to be published by the American Chemical Society. The object of this monograph is to present the available knowledge in a readable form, and, secondly, to furnish a well-digested survey of the progress already made in the field and to point out the direction in which investigation needs to be extended. From this point of view this volume on vitamines must be regarded as a distinct success.

It covers consideration of the three well-established vitamines, with a general chapter on the vitamines in relation to the problem of the food supply. In addition there is a carefully selected biography of about one thousand titles and a carefully prepared index to authors and to subjects. The material is well summarized, and treated in a thoroughly judicial manner which is rather exceptional in recent treatises dealing with the vitamines.

The book can be unqualifiedly recommended both to those who are actively engaged in this field, and to others who have a general interest in this subject and wish to ascertain just how much of the recent work on vitamines is founded on theory and how much rests on reliable experimental investigation. It is a very timely volume and will, no doubt, be welcomed by many readers.

ALFRED F. HESS, M.D.

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Man, the Animal. *Dr. William Martin Smallwood. New York: The Macmillan Co. 1922. Pp. 223. Price $2.50.*

It may be true that "preachers, nurses and social workers in America" have long desired the sort of popular science which this book offers to them and to the general reader, without knowing where to find it; but it may be questioned whether this rather confused effort is the best medium for the purpose.

The book is readable enough, and covers a wide range of interesting and important topics on the biological aspects of human affairs and problems, including reproduction, heredity, the nervous system and learning, metabolism and the characteristics of protoplasm. The application of biological principles to problems of health receives a whole chapter, which suffers from certain obscurities in statement and carelessness as to details, as well as from the apparent effort to be impressive. The causes of "all the greatest catastrophies, whether geologic or modern," have been due to the action of microscopic parasites. The limitations of public-health measures are found in the natural immunity, which is derived from the inherited constitution; but the specific nature of this natural immunity is obscured by the statement that the constitutionally weak, when "infected with germ diseases," will probably succumb, "irrespective of sanitary conditions and hygienic living." On the other hand, "all living things may recover

from every form of germ disease to which they are subject—none is necessarily fatal." And the author doubts whether the general immunity of mankind will improve with increasing urbanization, since "the development of rugged constitutions requires vigorous exercise and plenty of fresh air."

There is great need for explaining to the lay reader just what we understand of the mechanism of blood reactions, and the general theory of serum-therapy. But although the author talks around the subject for several pages, he does not add to the illumination. The chief defects seem to lie first in an excessive cautiousness which emphasizes the ultimate limitations of human power to solve our problems, rather than the limitations of our present knowledge; and second, in a certain concession to prevalent anthropomorphism and mysticism, which results in the personification of Nature and speculation concerning her schemes and purposes, and in an emotional tension that is hardly in keeping with the methods and purposes of science.

BENJAMIN C. GRUENBERG, PH.D.

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Taking It on High. *Dr. R. R. Daniels and Bertrand Lyon. Bobbs-Merrill Company,* 1921. *Pp.* 375.

Realizing that abstract conceptions of health are of little interest to laymen, the authors of this book seek to capitalize the prevailing widespread interest in the mechanics and operation of the automobile. They do this by comparing the human body to a motor car, pointing out analogies between certain mechanical principles of the auto and physiological processes of the body. How to tune up and maintain the human mechanism in 100 per cent efficiency is told in entertaining, picturesque language embellished with anecdotes and recitals of interesting personal experiences.

Particular stress is laid on diet and nutrition. Food is the fuel of the human machine and upon its character and the quantity ingested depends more than on any other factor the efficiency of the machine. "Don't commit suicide with your knife and fork," they warn, and then advise their readers as to what foods to select and how to prepare them. After condemning the old rule of following the appetite, they ask, "Is it any wonder that our death-rate during the prime of life is doubling?" Of such loose unscientific statements there are a number, which, since they are directed to the lay reader may conceivably cause mischief by giving rise to harmful misconceptions. To say, for instance, "When you are sick don't eat," emphasizing the statement in italics, is playing directly into the hands of the medical cults. Nor does it seem fair, in condemning the use of coffee, to imply that the increase in recent years of Bright's disease is due to a corresponding increase in the amount of coffee consumed in the United States; and the repetition of the old physiological axiom, long since discredited, that the body tissues are completely renewed every seven years, tempts the critical reader to question many other statements which have a similar flavor of finality and dogma.

Considered as a whole *Taking It on High* is calculated to make a popular appeal for better health and body efficiency and is therefore a distinct contribution to the cause of health betterment. But the reader should be warned to make due allowance for inaccuracies and questionable statements which have crept in largely, it would seem, because of the enthusiasm of the authors for certain of their ideas.

H. E. KLEINSCHMIDT, M.D.

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The Principles of Bacteriology. *A. C. Abbott, M.D. Philadelphia: Lea and Febiger, 10th edition, revised* 1921, *Pp.* 686. *Price* $4.00.

This well-known text-book retains its characteristic of a typical student's guide in bacteriology. A few new discussions dealing with advances made during the last few years have been incorporated, such as the work on the pathogenic spirochetes. A few illustrations have likewise been added. It would have seemed advisable to omit from the illustrations some of the antiquated types of sterilizers and to substitute or add illustrations of the Boston Board of Health type of the Arnold sterilizer and the horizontal chamber type of autoclave, both of which are so extensively used in modern laboratories. The merits of the book are firmly established and need not be enlarged upon. The fact that it now appears in its tenth edition speaks for itself.

ARTHUR LEDERER, M.D.

PUBLIC HEALTH NOTES

Abstracted by D. Greene, M. D., James A. Tobey, Homer N. Calver, and Mayo Tolman.

Child Health Education at Lake Mohonk.—Although much is being done for the health education of children, many of the basic principles of this branch of health work have not yet been clearly defined. With the purpose therefore of assembling experiences and clarifying thought, the United States Bureau of Education, together with the Child Health Organization, called a conference to discuss health education and the preparation of teachers. This conference took place at Lake Mohonk, New York, June 26 to July 1. Leaders in both health and educational fields addressed the meeting, but discussions from the floor occupied, by design, the greater portion of the time. The conclusions of the conference, therefore, are based on the experience of many workers. The program committee, of which Professor C.-E. A. Winslow was chairman, presented topics of the conference under five heads: 1. Subject matter in health education. 2. The place of health education in the curriculum. 3. Incentives and motives in health education. 4. The preparation of teachers in health education. 5. The promotion of health habits—successes and failures.

As a working basis for the conference it was accepted that children in large numbers could be reached most effectively through the schools, and therefore the recommendations of the conference deal with the two major topics of the preparation of teachers for health teaching and the nature and content of the health material for children in the various grades. It was also assumed that that teacher is best equipped who has herself an individual and personal knowledge of healthy well-being. A student health service and healthful surroundings for teachers in training schools are therefore the first recommendations made. Suggestions follow as to the fields from which subject matter should be derived in preparing teachers for health education.

The conclusions of the conference imply that they will include all teachers of children, for it is stated that health teaching should permeate the whole school curriculum. Varying emphasis, however, should be placed on different phases of health teaching in the various grades, and the conference suggests, therefore, as a desirable trend for a plan of health education in the schools that in the primary grades chief emphasis should be placed on habit formation. In the intermediate grades the phases of health work should be more broadly biological and should convey a conception of the functioning of the body as a whole, although the content in the grades should still be correlated with health habits and practice. In the junior and senior high schools, while continuing the effort to fix the habits and broaden the knowledge indicated for previous grades, problems arising from group activities offered in school, home and community should be stressed. It may seem to some health officers that the recommendations of this conference do not take sufficiently into account the relation between health education in the class room and the experience the children undergo in the course of medical inspection and examination. The conference marks a distinct forward step inasmuch as it has set forth simply and concretely the fundamentals of many ideas that those interested in health and education have been considering for some time.—(*H. N. C.*)

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The A. P. H. A. Mentioned in Congress.—In the *Congressional Record* for July 18, 1922, on page 11276, appears a speech by the Honorable Lester D. Volk, of New York, on "The Necessity for Narcotic Drug Investigation." Mr. Volk quotes from resolutions of the American Medical Association and the American Therapeutic Society, and then continues as follows:

"Mr. Speaker, great as are the two learned professional societies whose solemn resolutions I have cited, there remains another and equally great aggregation of scientific savants whose lives have been given up to a study of problems peculiarly related to conditions fostered by our modern complex lives, especially in our great cities, where particularly exist the rings of drug peddlers and sanitarium interests preying on the

addict. This body is the American Public Health Association, comprised of the health officers and students of health subjects from every quarter of North and South America.

"On October 19, 1921, Commissioner Haynes promulgated his interesting views on the subject of narcotics. On Nov. 17, 1921, this body, meeting in annual convention in New York, and reviewing the work of and effects of narcotic regulations, anticipated the resolution of investigation, No. 258, which I introduced before this body last January by adopting a resolution calling for a scientific investigation of the moot subject under discussion.

"Similar position had been taken by this body for three years previous at its annual meetings and was the result of long and exhaustive investigation by special committees apointed to study various phases and problems of narcotics and addiction and of yearly open discussion of this subject.

"The resolution adopted by the American Public Health Association in 1921 was sponsored by Dr. Peter H. Bryce, an internationally known health and scientific authority."

Representative Volk is a medical graduate and also a lawyer. He is a Republican from Brooklyn, N. Y.—(*J. A. T.*)

✣

Report on Public Health Institutes.—During the winter and spring of 1922 sixteen public-health institutes were held in various cities under the auspices of state health departments and the United States Public Health Service. The American Public Health Association also conducted an institute the week preceding its Fiftieth Annual Convention in New York City last November. The total registration at the sixteen institutes was 6,254, an average of nearly 400 for each. The largest attendance was at Chicago, with 1,001 registrants, the smallest at New Orleans, with 105. The registration by occupation at thirteen of the institutes showed more nurses and social workers than any other group. They numbered 1,907, while physicians were second with 1,718. There were 238 students, 107 teachers and clergymen, 69 sanitary engineers, 46 judges and court officials, and 2,169 unclassified. The institutes were reported to have been generally very successful and of much value to sanitarians in the various localities.—*U. S. Pubic Health Reports,* June 30, 1922. (*J. A. T.*)

✣

Vaccination Regulations Upheld in Washington.—The *U. S. Public Health Reports* for June 30, 1922, contains an opinion of the Supreme Court of the State of Washington. This decision held that the vaccination regulations of the State Board of Health, by which children not vaccinated were excluded from school, were entirely valid. The facts in the case were that a child was so excluded, even though she was not a disease carrier nor did she have smallpox. The facts were admitted, as the case was argued on demurrer. The court examined the statutes creating the State Board of Health and the powers given by them and concluded that the Board acted properly in this case under the law. A previous decision of the same court was cited, in which it was held that "the finding of a fact by a properly constituted health officer was final and binding upon the public as well as upon the courts." Thus it added another support to the cause of public health, one which the anti-vaccinationists can mull over for a while.—State ex rel. Lehman vs. Partlow et al., 205 Pac. 420. (*J. A. T.*)

✣

Rural Health Service in U. S—Of the 3,065 counties in the United States, only 203 have rural health service under the direction of a whole-time health officer. Progress is shown, however, by the fact that there was an increase of 52 such county organizations in 1920 over the previous year, and an increase in 1921 of 42. The small number of counties having adequate health service is viewed as "a national calamity" by Dr. L. L. Lumsden, who contributes an article on the subject to the *Public Health Reports* for July 21, 1922. Included here is a complete list by states of counties or districts having local health service during 1920, 1921 and 1922 respectively.—(*J. A. T.*)

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Milk-Borne Epidemic of Typhoid Fever at Fort McPherson, Ga.—An account is given of an epidemic of typhoid fever in the summer of 1921 among the patrons of a certain dairy, which supplied milk to a part of the families living at the army post

at Fort McPherson. A tabulation of data pertaining to the families using milk from this dairy is given, showing: the amount of milk used, individuals in family, age, date of last typhoid inoculation and the typhoid cases.

The important points brought out in this article are: (1) The unusually low total bacterial count of this milk, averaging between 2,000 and 5,000 bacteria per c.c., which is about one-half that of the pasteurized milk normally furnished at Fort McPherson; (2) the importance of sanitary control of dairies, including medical inspection of the milkers, those handling milk and their families; (3) the low incidence of typhoid among those inoculated. Eighty-eight per cent of cases occurred in uninoculated individuals.—Major A. T. Cooper, Major N. F. Curtis and Major R. Skelton, Medical Corps, U. S. Army, Military Surgeon, Vol. 50, No. 3, March, 1922, Pp. 283-94.—*U. S. Public Health Engineering Abstracts*, July 29, 1922.

✚

Venereal Diseases in Eastern Europe.—Venereal diseases have increased in Europe, as is usual following war. What is not so usual, however, is that a public sentiment against them has developed. There is unfortunately a lack of drugs and of physicians, so that progress against the diseases is hampered. Rumania, Bulgaria and the Baltic states are particularly short of doctors. Turkey has no medical facilities at all to treat venereal disease. In Jugo-Slavia and Czecho-Slovakia some progress is being made, and in these countries popular health instruction is well developed. The work of Professor S. M. Gunn, former secretary of the American Public Health Association, who has been expert health advisor in Czecho-Slovakia, has had much beneficial influence, and together with efforts of other leaders has given this country an advanced standing. The greatest need in all the nations is funds, a condition which is not unusual anywhere. As it is, however, the flame is being kept alive and the governments of Eastern Europe are beginning to recognize the importance of coping with these insidious maladies. In spite of their impoverishment, what they are doing compares favorably with the activities of Western European states.—Walter Clarke in the *Journal of Social Hygiene*, July, 1922. (*J. A. T.*)

Maternity Center Association Issues 1,200,000 Messages to Expectant Mothers.—The Maternity Center Association of New York, an authority on matters of maternity protection, announces its publication of a series of twelve "Talks to Mothers" for the benefit of women in all parts of the country. It is the first attempt of the kind in the United States to undertake, on a national scale, to impress women with the vital importance of complete maternity care.

It has been said that more women between the ages of fifteen and forty-five die from causes incident to maternity than from any other cause except tuberculosis. The majority of these deaths are due to ignorance—to the fact that the mothers didn't known that care is necessary if their lives and the lives of their babies are to be protected. It is the function of the new publications to dispel that ignorance—to convince mothers that they must seek proper medical and nursing care.

It is planned to distribute the pamphlets to a great extent through nursing and public-health organizations which are closely in touch with local conditions in their own communities. Expectant mothers will be encouraged to present their cases to those institutions and receive personal advice and direction.

The burden of the message is that the woman should see her doctor or nurse as soon as she knows she is going to have a baby and remain under their care until her final examination, six weeks after the baby is born.

These pamphlets may be secured in quantities at low prices from the Maternity Center Association, 370 Seventh Avenue, New York City.

✚

The Popular Bogey of High Blood Pressure.—It is generally not appreciated that high blood pressure is a symptom, not a disease, and it may be a favorable reaction through which is made possible the maintenance of the proper function of the organism. It has not been many years since the blood pressure machine was introduced into this country, but those years have been filled with concentrated attention to blood pressure such as must astound the thoughtful person who realizes how well the world got

along without apparatus for measuring the blood pressure. What is commonly spoken of as blood pressure, is really an increase in the blood pressure. The range of normal blood pressure has not been definitely ascertained, though the popular rule is to add 100 to one's age. Excitement and anxiety may raise the blood pressure many points, and a period of calm will reduce it to normal. Many persons in perfect health run high blood pressure of which they are not even aware.

Changes in blood pressure are not entirely understood even by those who have devoted considerable time to this study. The dangers to the individual are frequently those due to autosuggestion. The amount of thought and attention which a non-medical person gives to his own case of blood pressure is distinctly harmful to his own condition. It is unwise to make the presence of a mere symptom the basis for a course of rigid treatment which may actually confirm a vicious circle and do the individual more harm than good.—*The Nation's Health*, May 15, 1922, Pp. 262-3.

✣

National Association of Practical Refrigerating Engineers.—The Thirteenth Annual Convention and Exhibition of the National Association of Practical Refrigerating Engineers will be held Nov. 1, 2, 3 and 4, 1922, at the Planters Hotel in St. Louis. The National Association of Practical Refrigerating Engineers is an association composed of chief and operating refrigerating engineers, for the purpose of further educating the members of the profession in the art and science of refrigeration engineering.

The National Educational and Examining Board of the Association, after much labor, several months ago commenced to furnish the members with a lecture course on the fundamental principles of refrigeration. The lecture course is in twenty-two parts and is conceded to be the most complete of anything ever written on the subject.

Further particulars may be obtained from Edward H. Fox, secretary, 5707 West Lake Street, Chicago, Ill.

✣

The International Health Board of the Rockefeller Foundation has entered into a coöperative arrangement with the Health Organization of the League of Nations whereby the Board will provide a sum not to exceed $32,840 a year for a period of five years for the purpose of maintaining an international epidemiological intelligence service. The Board will also provide a sum not to exceed $60,080 a year for three years to put into effect a scheme for the international exchange of public-health personnel to be conducted under the auspices of the Health Organization of the League.

The Health Organization of the League of Nations was created by the League in September, 1921. Its principal function at present is to conduct an international epidemiological information service, and in general to promote international coöperation in the control of epidemic diseases. Incidentally it will advise the League in matters affecting health, and coöperate with the International Labor Organization in promoting industrial hygiene.

Since its establishment the intelligence service has kept all governments informed as to the status of epidemics of typhus, intermittent fever and cholera which have been sweeping westward from the famine stricken regions of Russia. Negotiations among European governments looking to the adoption of sanitary conventions for the control of epidemic diseases have been initiated by the Health Organization and much progress already made. It has also undertaken to promote the international standardization of vaccines and serums.

Interchange of health officials will be arranged not only for observation but for definite periods of service which will result in actual exchange of experience. The proposed system of exchanges will be put into effect first in Europe and may be extended as opportunity offers to other countries throughout the world.

✣

Labor Coöperating for Public Health.—Labor leaders and health workers in Minneapolis are coöperating to stimulate the unions of that city to promote the health of their members. A joint committee from the Minneapolis Trades and Labor Assembly and the Hennepin County Tuberculosis Association is making a survey of health conditions among the 141 unions of the city. The survey seeks to find what kind of health

service is already being rendered to their members and what needs are not yet being met. Two questionnaires have been sent out, one to the secretaries of locals, to find out what is being done as regards (1) cash sick benefits; (2) health service—nursing, physicians, dispensaries, hospital care, compulsory examinations, maternity benefits; (3) health educational work; and the other to individual members, to ascertain the number of working days lost through sickness, the amount spent annually on self and family for medical and dental care, and needed medical or dental care which is not being obtained. Housing conditions are also investigated.

The committee is confident that the survey will lead to a coöperative health program on the part of the unions. The form of this has not been worked out, but it is probable that a central health service will be provided, at cost, to the members of the unions and their families. A far-reaching program of health education at the center is also planned.

The Minneapolis unions have been encouraged by the success of the Union Health Center maintained by the International Ladies' Garment Workers in New York, under the direction of Dr. George M. Price. Clinics at union headquarters have also been conducted by the New York City Health Department. There are other signs of labor's increasing interest in public-health activities, such as official representation on the staffs of several public-health associations.—Ival McPeak, *American Federationist*, March, 1922, Vol. XXIX, No. 3.

✚

Health Section of the League of Nations.—Publications of the technical organizations of the League of Nations, including the Health Section, are now available to American readers through the general agents for the United States, the World Peace Foundation, 40 Mt. Vernon Street, Boston 9, Mass. They include: Minutes of the first and second sessions of the Provisional Health Committee, Epidemiological Intelligence (in Eastern Europe and Russia), Report of the Epidemic Commission of the League of Nations, and Report of the International Conference on the Standardization of Sera and Serological Tests.

The publication on Epidemiological Intelligence, No. 1, contains statistical tables of epidemic diseases, 1920-21, including typhus and relapsing fever, dysentery, Asiatic cholera, enteric fever and scurvy, for Poland, the Baltic states, and Societ Russia; charts, maps and graphs of high quality, illustrating the evolution of epidemics in eastern Europe, and exhaustive study of the incidence of typhus; data on the Russian Census, and other valuable material.

✚

Vaccine Manufacturers Upheld in Court.—The H. K. Mulford Co., manufacturers of biological products, have been acquitted in the Federal District Court in Philadelphia of manufacturing a vaccine alleged to have brought about the death of Dr. W. K. Rogers, formerly a physician of Columbus, Ohio. Dr. Rogers had been given a prophylactic course of vaccine treatment against cold and catarrh. Shortly thereafter his arm became inflamed and he died of an alleged streptococcic infection. The widow sued the company, claiming that the infection was transmitted by the vaccine itself.

In the course of the testimony the following points were brought out:

1. The vaccine used on Dr. Rogers was taken from a vial just removed from its package, and he was the first to be injected with its contents. Later, no less than twenty persons were injected with the identical vaccine used on Dr. Rogers, and none of these developed any streptococcic infection.

2. This vial was one of a large consignment purchased by the Carnegie Steel Company. More than 16,000 employees were injected from this consignment, and none showed any unfavorable reaction.

3. Tests made by independent bacteriologists showed that live virulent streptococci when added to the vaccine in question died in less than six weeks. The lot supplied to the Carnegie Company was made and packed more than four months before date of delivery.

4. The Mulford products, like all others licensed by the United States Government, are submitted to special duplicate tests of sterility, records of which are kept permanently on file, and physicians using them can at any time trace back the history of a particular vial.

It was therefore evident that the product was sterile, that streptococci even if present could not have survived until the date of injection, and that the infection of Dr. Rogers was not conveyed to him in the vaccine. The suit involved an expenditure of between $50,000 and $75,000. The plaintiff, instead of obtaining a large award of damages, was forced to bear a large proportion of this expense.

The responsibility in such cases rests not only with the manufacturer of the product, but also with the patient and his physicians. Anyone submitting to even a minor operation assumes the risk of a possible coincident infection. All such factors must be considered and it is clear that such cases cannot constitute a valid argument against vaccine treatment.

✣

Out-Patient Work in Ophthalmology.—As many problems represented by out-patient work in eye clinics were brought to the attention of the Associated Out-Patient Clinics of New York City, it was deemed advisable to call a meeting of the ophthalmologists representing the member institutions of the Association and to organize a section on ophthalmology for the purpose of considering these matters. Such a section was organized in January, 1922.

At the several meetings of the section, consideration was given to various topics, such as: Lack of professional standards, paucity of equipment, overcrowding in all clinics, especially for refraction; abuse of clinics by patients able to pay, failure of patients to secure glasses when prescribed, unsatisfactory financial arrangement with opticians, lack of uniformity of fees charged for admission, drugs, laboratory examinations, glasses, a lack of organization for research and incompleteness of records and inadequacy of filing systems.

The section decided that no official pronouncement on these matters would carry weight unless sufficient facts were gathered upon which to base recommendations. The executive committee, therefore, outlined the research which was considered necessary and the studies were made. Information was also secured as to the practice in representative clinics in other cities. A series of records was studied at each institution to ascertain their completeness from a scientific standpoint.

A summary of the findings of the studies, together with the conclusions and recommendations arrived at by the committee as a result of these findings, will be presented in the report of the section which will be available in the fall.

✣

Business Principles in the Management of Welfare Agencies.—The application of modern business principles to welfare agencies, and the increased returns effected thereby on the funds contributed, are described in a report just made public by the U. S. Department of Labor through the Children's Bureau. This report, entitled "Office Administration for Organizations Supervising the Health of Mothers, Infants, and Children of Preschool Age," is the outgrowth of requests for advice which came to the Children's Bureau from organizations in various cities. It embodies the experience of members of the staff whose services were loaned for studies and consultations, and the results of a study of methods used by 200 nursing agencies in both large and small communities. Although the report is directed especially toward the needs of agencies supervising the health of mothers and young children, certain fundamental principles set forth are applicable to the conduct of any office in the social field.

In the long run modern office management enables a society to do more work and better work than was possible at the same cost in old ways. If high standards of nursing service are to be maintained, strict requirements regarding the education, training, experience, and character of the nurse must be compensated by adequate professional salaries. The skilled nursing staff, moreover, must be supported by a skilled office force, intelligently and adequately equipped and directed.

Among the subjects with which the report deals are: The principles and methods of staff organization; selection and training of employees; office location and arrangement; selection of office furniture, equipment, and supplies; planning case record system; filing; financial administration; and publicity methods. It includes a bibliography, and an appendix giving details of four record systems in use by different types of nursing organizations.

Dulling Death's Scythe.—Occasionally, which is to say infrequently, there is to be found an objector to the vaccination preventive against smallpox who, for principle's sake, refuses to permit his children to be treated, thereby debarring them from school and getting himself committed to jail until reason prevails over fallacious conviction of right.

Notwithstanding this crass opposition, smallpox, once the greatest scourge of humanity, which counted its victims by the millions, is almost extirpated. Science holds the position of advantage, and the disease is slowly retiring into the limbo of dead pestilences. Much the same can be said of typhoid fever, which inexorably took its toll by the thousands, but which has succumbed to the irresistible march of medical discovery and combative skill. Typhus soon is to follow, and so is the menace of the centuries, once politely called the "great social disease," but now spoken of by its true name and fought openly rather than secretly.

It is satisfying and elevating to know that dread diphtheria, that slew the tender little flowers of the human garden without mercy, gradually is being conquered. Taking Philadelphia as a typical basis of comparison, vital statistics show that the death-rate from this malady has fallen from 96 for each 100,000 in 1896 to 17 in 1921, or slightly more than one-fifth. Beyond question, this inspiring gain is due to the employment of antitoxin when the onset of illness is detected. The effectiveness of the remedy has been vastly increased by the use of the so-called Schick test, which demonstrates whether or not the child is immune from the disorder. If susceptible, toxin-antitoxin is used, and immunization is secured.

The day will come, no doubt, when a death from this slayer of the innocents will be comparatively as rare as an adult's death from typhoid. These are but a few of the wonderful results of medical research, which should be made the care of every individual, and the state as well, without regard to the cost, to the end that the race may live.—Editorial, The Cincinnati *Enquirer*, June 7, 1922.

✤

Welfare of Women and Children.—The U. S. Children's Bureau has recently issued pamphlets on Industrial Home Work of Children (Bureau Publication No. 100), a study made in Providence, Pawtucket, and Central Falls, R. I.; Children of Wage-Earning Mothers (Bureau Publication No. 102), a study of a selected group in Chicago; and Child Labor and the Work of Mothers in Oyster and Shrimp Canning Communities on the Gulf Coast (Bureau of Publication No. 98). The U. S. Women's Bureau has issued a pamphlet on Women in Georgia Industries (Bulletin No. 22), a study of hours, wages, and working conditions. Health and sanitation are discussed in each of these three pamphlets.—(*J. A. T.*)

SANITARY ENGINEERING

Don'ts for Sewerage and Water Works Designers.—The Minnesota State Board of Health in May, 1921, published instructions covering a number of features to be avoided when plans and specifications of proposed water and sewerage system are submitted. In the case of waterworks the instructions cover almost exclusively those features affecting the health of the community. Under sewerage design, however, the Board insists on adequate grades, a minimum for which is specified for different sizes of pipes, with the requirement of flush tanks wherever flatter grades must be used. By-passes are required in treatment plants so that in case of need any part, or even the whole plant, may be cut off. Not a small portion of the instructions is devoted to various requirements in the design of Imhoff tanks.—*Public Works*, June 24, 1922, p. 457.

✤

Columbus (O.) Filtration.—In 1921 the water softening and purification plant of Columbus treated 7936 million gallons, about 9% less than in 1920. Bacteria were reduced from an average of 2450 per c.c. to 24, the hardness cut from 169 p.p.m. to 100 p.p.m.—*Public Works*, May 20, 1922, p. 373.

✤

Tank Treatment of Sewage.—Both experience and experiments have gone far to show that separate sludge digestion tanks afford the most satisfactory method of tank treatment, securing a very high removal of suspended solids and complete digestion of the sludge without much danger of nuisance. No foaming is met with, no time spent squeegeeing, no scum has to be removed, no skimming of tanks is required and no un-

certainties of operation have to be considered.—*Public Works,* May 20, 1922, p. 373.

✣

Garbage Collection in Goldsboro.—In 1920 the city of Goldsboro, N. C., adopted a health and sanitary ordinance requiring all business houses and private residences within the city to obtain a standard metal covered garbage can, which was required to be placed as directed by the city through the local newspaper. The cost of garbage collection, which service is performed by the city, is met by direct taxation. Horse-drawn wagons are used and the garbage is disposed of by dumping on low ground at the edge of the town. The population of 12,000 furnish about 60 tons of garbage a week, or approximately 520 lbs. per capita per annum. This figure is between 2 and 3 times greater than the average quantities usually reported by cities.—*Public Works,* May 20, 1922, p. 369.

✣

Buffalo Filtration Plant.—The Bureau of Water of Buffalo is engaged in preparing plans for a 4,000,000 gallon filtration plant of 40 filters. While it is expected the plans for the pump house and filters will be ready for bids by next month it is felt that the mechanical features will not be ready until some time later.

✣

Water Consumption in Britain and America.—In Bradford, England, with a population of 400,000, the consumption is now 18,000,000 gallons per day, representing a daily per capita consumption of 46 gallons. Of this amount about one-half is used for trade and manufacturing purposes. In London the daily consumption is 34 gallons, in Manchester 36, and in Glasgow 60. The average for the principal towns in Britain is 35 gallons, ranging from 18 in Norwich to 80 in Paisley. New York requires 100 gallons and Washington 150, the average being nearly three times as high as Britain.—*Canadian Engineer,* May 2, 1922, p. 443.

✣

Bradford, England, Water Supply.—The water supply of Bradford has been municipally owned since 1855. The area of the various corporation watersheds is 25,080 acres, delivering to 6 reservoirs. Most of the supply is filtered. Rainfall in Britain varies from 20 inches, in the eastern counties, to 130 inches in the hills of Cumberland, Wales and Scotland. On the corporation watershed it ranges from an average of 32 inches to 54.4. Fortunately, for the wool washing, dyeing, bleaching, tanning and printing industries the water is comparatively soft, having but 2.5 degrees hardness. When it is considered that iron conducts heat 8 times better than calcium carbonate and 16 times better than calcium sulphate, and that ⅛ inch of scale on a boiler requires 16 per cent more fuel, ¼ inch requires 50 per cent, and ½ inch requires 150 per cent additional coal, the value of a soft water for boiler purposes can be realized.

Though prolonged storage undoubtedly has a beneficial effect, there is little question of the desirability of filtering a surface water supply. In Bradford there is a total filtering area in excess of 8 acres. The filters, which are of the slow sand type, consist of a watertight basin containing 2-3 feet of fine sand supported by 6-12 inches of gravel, or broken stone, resting on the underdrains. The rate of filtration is 2,000,000 imperial gallons a day. The bacterial efficiency of the filters, which depends on the gelatinous slime on the surface of the sand, is lowest immediately after the beds are cleaned. From the filters the water passes to service reservoirs which are being covered to prevent the growth of algae.—*Canadian Engineer,* May 2, 1922.

✣

Chlorine, Tastes and Odors.—Sanitarians are frequently called upon to investigate the occurrence of tastes and odor in water. Tastes resulting from excessive alga growths are not common in Canada as storage and impounding reservoirs are not extensively used. The chief trouble is due to tastes following chlorination, the cause of which is not as yet definitely known. Recent researches indicate that these tastes are due to the formation of chemical compounds known as chloro-phenols following the discharge into streams of industrial wastes containing phenols. Assuming that such is the cause, legislation should be adopted to prevent the indiscriminate discharge of such wastes into public sewers. It is felt that not only would tastes in waters that are treated with chlorine be prevented but many manufacturers could recover byproducts of suffi-

cient value to meet the cost of handling such wastes. No figures are yet available to show what amounts of phenol and chlorine are necessary to cause tastes, and this fact offers the research chemist a broad field. It may be found that chloro-phenols are formed only when definite quantities of each reagent are present and that either an increase or a decrease in the chlorine will eliminate the trouble. In some cases, as notably in New York, the suggestion of Houston, in England, that excess chlorine be used has been adopted and the taste eliminated. Dr. Houston recommends super-chlorination followed by dechlorination of the excess chlorine.—*The Canadian Engineer*, May 2, 1922, p. 451.

✣

Water-borne Typhoid in Havre.—Dr. J. Sanarens, one of a number of scientists who have investigated the serious typhoid epidemics in Havre, France, bases his conclusions on a sanitary survey of the entire watershed rather than on laboratory analyses. The water supply of the city is derived from small subterranean streams in a zone of chalk surmounted with a limestone area which apparently passes quantities of surface water for, during dry seasons, the water is remarkably free of micro-organisms, but after a period of heavy rains the water becomes turbid and high in bacteria. The maximum number of cases of typhoid have always occurred in August and September after the most violent rainfalls of the warm period. The increase in typhoid generally occurs 10 to 25 days after a heavy rain. Experiments carried on in connection with this study showed that the typhoid organism, when sown in water without the normal saprophytic organisms would remain viable for 100 days when exposed to diffused northern light. In order to determine the rate of infiltration of surface water only, very small amounts of fluorescin could not be used for fear of antagonizing the consumers on account of the color produced; consequently brewers' yeast was used as saccharomyces derevisae are not normally present in the water of Havre. Brewers' yeast thrown on the surface of the ground along various roadways was found within 6-48 hours, thus showing the rapidity of surface seepage.

✣

Odor Elimination, New Bedford Garbage Plant.—It has long been known that direct-heat drying of garbage is more economical than cooking, pressing and drying, but this method has not generally been adopted because of the bad odors generated by the dryers. With the development of a new and satisfactory deodorizing method the city of New Bedford, Mass., decided to change from the Cobwell system of reduction to the direct-heat rotary dryer. The vapors from the dryers are carried outside the plant by a duct that discharges close to the ground, that the presence of any odors may be detected. Deodorization is secured by discharging chlorine gas in proper volume, as controlled by a Wallace and Tiernan chlorinator, into a mixing chamber and thence into the duct. The velocity of the vapors through the duct is such that about 7 seconds' contact is maintained between the chlorine and the odor-bearing gases. Since installation, complete deodorization has been obtained at an average cost of about 1.5 cents a ton of garbage treated even when handling such material as putrid meat, rags, feathers and hair.—W. J. Springborn, *Public Works*, June 17, 1922, p. 442.

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Health Value of City Zoning.—Housing projects in order to receive government aid in England are limited to 8 families per acre for suburban conditions, and 12, 16 and 21 families for urban. Up to 1922 the regulation of the intensity of development in the United States has been secured only by such indirect methods as proscribing the percentage of lot area which a dwelling should cover and the sizes of yards and courts to be left open. The zoning ordinance of Newark, N. J., effective January 3, 1920, introduced provision for direct control of overcrowding and later ordinances show an actual limitation of intensity of occupation. The health value of proper zoning would effect, (1) less discomfort from smoke, odors, noise, dust and flies, with a possible increase in vitality and better health; (2) less crowding of public conveyances and so less contact infection; (3) less darkness and better air circulation on the street surface with fewer live pathogenic bacteria in street dust; (4) less shadow on the dark side of buildings and in the spaces about them, which means more light and improved ventilation; and (5) more cheerful outlook for the home.—Charles B. Ball, *Public Works*, June 17, 1922, p. 446.

LEGISLATION—FEDERAL

(From bi-weekly reports of the National Health Council, June 15-July 15, 1922)

PROGRESS ON MATTERS PREVIOUSLY CONSIDERED

H. R. 7456. Public Health and the Tariff.—The Senate has adopted an amendment to the Tariff Bill which reduces the duty on surgical instruments, "composed wholly or in part of iron, steel, copper, brass, nickel, aluminum or other metal," to 45 per cent ad valorem. The rate originally fixed in the Bill as it passed the House of Representatives was 35 per cent. The Senate Finance Committee subsequently advanced the rate to 60 per cent, which was considered excessively high and to which much objection has been made. The rate of 45 per cent is likely to remain in the final passage of the Tariff Bill. The Senate also adopted a rate of 35 per cent on dental instruments.

The Fordney Bill as it now stands does not contain any provision whatever permitting free importation, without duty, of philosophical, scientific and laboratory instruments, although the Payne-Aldrich Law of 1909 passed by a Republican Congress, contained such provision. The Underwood Tariff of 1913, which is now in force, does not permit free importation of scientific instruments. Unless educational institutions and persons interested in the restoration of such a provision in the Fordney Bill prevail upon the Senate to amend the existing bill by its insertion in the measure now before the Senate, the subject cannot later be adjusted by the Conference Committee. The desire to encourage the manufacture of scientific and laboratory instruments in America, even though further free importation of them to colleges and hospitals would necessarily cease, is given as the reason for the refusal to allow duty free entrance of these instruments. The Senate Committee on Finance has refused to grant a request for such exemption made by representatives of hospitals and colleges, which in past years have imported European instruments without paying any duty whatever on them. (A. J. P. H. July.)

H. R. 7156. Prohibition in Interstate Commerce of Brushes Contaminated with Anthrax.—Passed the House of Representatives, June 19, 1922. The proposed act not only prohibits the importation but also the shipment in interstate commerce of any shaving, lather, or hair brush containing horsehair. Hair brushes were added to shaving brushes by an amendment in the House. In the Senate the bill was referred to the Committee on Foreign Commerce. (A. J. P. H. May.)

H. R. 8086. To Prohibit the Shipment of Filled Milk in Interstate or Foreign Commerce.—Hearings started June 26, 1922, by the Committee on Agriculture and Forestry of the Senate. Having passed the House of Representatives, May 25, 1922, this bill (originally H. R. 6215) was sent to the Committee on Agriculture and Forestry of the Senate, who held hearings July 7 and 9. Among the witnesses was Dr. R. A. Bolt, who asked that S. M. A. milk products be exempted from the bill, as this blend is used in the scientific feeding of infants.

H. J. Res. 297. Conference to Prevent Pollution of Navigable Waters.—Passed the House of Representatives June 5, 1922. Passed the Senate June 21, 1922, with amendments. Declaring the dumping of oil and oil waste in the ocean by oil-burning and oil-carrying ships has become a serious menace to public health by the contamination of sea foods and other means, this joint resolution passed the Senate without a dissenting vote. Conferees were appointed by both houses to consider the amendments. (A. J. P. H. July.)

H. R. 12051. Site for "Tubercular School" in District of Columbia.—Favorably reported by the Committee on the District of Columbia, June 23, 1922. The Commissioners of the District of Columbia are authorized by this measure to erect a school for tubercular children of the District of Columbia on the government owned tract of land at Fourteenth and Upshur Street, N. W. A year ago Congress appropriated $150,000 for the construction and this site was chosen by the Commissioners. A court injunction prevented erection of the school and the bill proposes to give the necessary power to go ahead with the project.

S. 2597. Dwellings in Alleys of District of Columbia Prohibited.—Favorably reported by the House Committee on the District of Columbia, June 15, 1922. This bill is an amendment to the present act regulating the public health, morals and safety of the people of the District of Columbia. Occupancy

of dwellings situated in alleys of the District is prohibited. The bill as favorably reported has been placed on the House calendar. It has previously passed the Senate.

H. J. Res. 313. Disposal of Articles of U. S. Veteran's Bureau Patients. Passed the House of Representatives June 5, 1922. Passed the Senate June 21, 1922. This act is now at the White House for the President's signature. It empowers the director of the U. S. Veteran's Bureau to make regulations governing the disposition of articles produced by patients in the course of their curative treatment.

S. J. Res. 43. Granting Use of Temporary Buildings to the American Red Cross.—This resolution giving the American Red Cross authority to continue to use certain temporary buildings in the city of Washington as national headquarters, having passed both the Senate and the House has been agreed upon by the conferees of both houses. The conference report, however, has not yet been adopted, although it was ordered printed in the House on June 19, 1922. The Washington Office of the National Health Council is located in one of these buildings, through the courtesy of the American Red Cross, one of the members of the Council. (A. J. P. H. May.)

H. R. 9528. Hospital at Nome, Alaska.—Reported in the Senate by the Committee on Public Buildings and Grounds, June 27, 1922. This bill transfers the Detention Hospital at Nome to the U. S. Bureau of Education.

The Federal Act for the Promotion of the Welfare and Hygiene of Maternity and Infancy.—Plans approved. Opinion on Constitutionality. The U. S. Children's Bureau informs us that now the plans for the fiscal year ending June 30, 1923, of thirty-six states for administering this act have been approved. The number of states having accepted the act is still forty-two. In Louisiana, the legislature of which is now in session, the Senate Committee on Health and Quarantine reported unfavorably on June 21st on a bill to accept the Federal Act.

In the Congressional Record for July 1, 1922, (p. 10657) appears a speech by Representative H. M. Towner, one of the authors of the Act, regarding its constitutionality. This is in the nature of a reply to the Attorney General of Massachusetts who has given his opinion that the act was unconstitutional (see A. J. P. H. August). Since this matter is of interest to sanitarians we include a brief abstract to Judge Towner's opinion.

Representative Towner argues that the law is constitutional under Article I, section 8, of the Federal Constitution, which gives to Congress the power "to lay and collect taxes, duties, impost, and excises to pay the debts and provide for the common defense and general welfare of the United States." He endeavors to show from the preamble and various classic works on the Constitution, debates, statements of eminent authorities, and other interpretations the scope of the welfare clause. He states that the Public Health Service finds justification for its existence under this clause and cites other departments whose work would be banned if there is no authority in the welfare phrase. He continues that the "invasion of the police power of the States" is the objection which has been raised against every extension of governmental activity to cure abuses or relieve untoward conditions. To support his contention that the Congress has power over general welfare a number of court decisions are cited. He also mentions the land grant college appropriations from 1862 on, the Smith-Lever Act of 1914 for instruction in agriculture, the Smith-Hughes Act of 1917 for vocational education, and the federal aid to highway construction as precedents for the type of legislation represented by the Maternity and Infancy Act. In conclusion he outlines the provisions of the act and discusses its origin and justification.

Interdepartmental Social Hygiene Board Ceases to Exist.—The Interdepartmental Social Hygiene Board went out of existence on June 30, 1922, with the ending of the fiscal year. No appropriation for its continuance had been made. A bill (H. R. 11490, S. 3544) (A. J. P. H. July) has been introduced authorizing the Department of Justice to take over the work of the Board, but no action has as yet been taken on this bill. Hearings on the House bill were held on June 6, 1922.

PUBLIC HEALTH LEGISLATION APPROVED BY THE PRESIDENT SINCE LAST STATEMENT:

H. R. 2193. Prohibition of importation and use of opium for other than medicinal purposes. (A. J. P. H., July.)

H. R. 11065. Appropriations for Department of State and Justice for coming fiscal year.

H. R. 10972. Readjustment of pay and allowances of officers of Army, Navy, U. S. Public Health Service, Coast Guard, Coast and Geodetic Survey. (A. J. P. H., June.)

H. R. 9981. Appropriations for Executive and sundry independent executive bureaus. (This includes appropriations for U. S. Veterans' Bureau for coming fiscal year.)

S. 1911. Providing compensation for government employees suffering injuries while in the performance of their duties. (A. J. P. H., July.)

APPROPRIATION BILLS

H. R. 11228, 10871, 11065, 9724, 9981, 10329, 10559, 9859, 10730, 10267, 9237, 10663, 12090.—Appropriations made during the present session of Congress for the fiscal year July 1, 1922, to June 30, 1923, total $3,747,035,382 and are carried in thirteen appropriation bills. All of these became laws before the House adjourned on June 30, 1922. These appropriations are made under the budget system. The Director of the Budget states in a report issued May 8, 1922, that this system saved the Government $250,134,835.03 in 1922. Many of the appropriation bills have already been abstracted in these statements.

NEW LEGISLATION

(Matters Not Previously Considered)

Bills Relating to Leprosy.

a. $650,000 for care and treatment of lepers. House Document No. 346, containing communications from the President recommending an appropriation in order to provide facilities for government care and treatment of lepers.

H. R. 12105. Introduced by Representative Elliott of Indiana, June 21, 1922. Referred to Committee on Public Buildings and Grounds. As a result of the communication sent to Congress by President Harding asking for an appropriation of $650,000 to increase the facilities for the care and treatment of lepers at the government leprosarium at Carville, Louisiana, two bills have been introduced in Congress, one in the House of Representatives by Congressman Elliott of Indiana and the other (S. 3665) in the Senate by Senator Ransdell of Louisiana. Both provide for an appropriation of $650,000. In his communication to Congress the Director of the Budget is quoted as referring to this appropriation as necessary for the Public Health Service to continue its work in fighting leprosy.

b. H. R. 11589. Transfer of Leprosy Investigation Station to Hawaii Territory.—Passed the House of Representatives, June 19, 1922. The lands and buildings of the leprosy station at Kalawao, island of Molokai, is deeded back to Hawaii territory by the terms of this bill. The station has been abandoned as far as the U. S. Public Health Service is concerned, having been found unsuitable for use as a leprosarium. The government of Hawaii, moreover, has constructed at its own expense a $40,000 leprosy station for the use of the U. S. Public Health Service in the city of Honolulu. The return of this property on the island of Kalawao gives back the land to its original owners. Favorably reported to the senate by the Committee on Territories and Insular Possessions, July 6, 1922. In its report on this bill the Senate Committee recommends it for passage without amendment.

H. R. 12053. Defining Butter and Providing Standard Thereof.—Introduced by Representative Haugen, June 16, 1922. Referred to the Committee on Agriculture. Butter is defined in this proposed act as the food product made exclusively from milk or cream, or both, with or without common salt and with or without coloring matter, and containing not less than 80 per cent of milk fat and not more than 16 per cent water. This measure is an amendment to the Pure Food Act.

H. R. 12035. S. 3713. Creation of a Prohibition Bureau.—The first introduced by Representative Wood of Indiana, June 15, 1922. Referred to the Committee on the Judiciary. The second introduced by Senator Ernst of Kentucky, June 15, 1922. Referred to the Committee on the Judiciary. These bills, identical in wording, provide that a separate bureau under the direct control of the President shall be created for the enforcement of the prohibition and narcotic laws.

H. R. 12090. Third Deficiency Appropriation.—Reported favorably by House Committee on Appropriations, June 20, 1922. Passed the House of Representatives, June 24, 1922. This is the third deficiency appro-

priation bill for the fiscal year 1922. It contains many small items dealing with public-health matters. The bill is now before the Finance Committee of the Senate.

Hospitals.

a. $500,000 to operate immigration hospital at Ellis Island.—House Document No. 346. This is a communication from the President containing a recommendation by the Director of the Budget to Congress for the appropriation of an additional $500,000 to the U. S. Public Health Service to operate the government hospital for emigrants at Ellis Island, N. Y. It is explained that this hospital can be better operated by the Public Health Service than by the Department of Labor, because in instances when no emigrants are under treatment its facilities may be utilized by other patients. The executive communication was referred to the Committee on Appropriations in the House, June 13, 1922.

b. Acquisition of land for Walter Reed Hospital, Washington, D. C.—Senate Document No. 215. Referred to the Committee on Appropriations, June 23, 1922. This communication from the President recommends the appropriation of $44,109 for the acquisition of additional land for the Walter Reed General Hospital in the District of Columbia. The sum of $350,000 has already been appropriated by Congress for this purpose, but it was found insufficient to purchase the property authorized.

H. R. 12209. Meat Inspection.—Introduced by Mr. Stafford, June 28, 1922. Referred to Committee on Agriculture. This bill would permit meat inspected by municipalities to be shipped in interstate commerce. It amends the act of June 30, 1906.

S. 3871. Counterfeiting of Liquor Permits made a Crime.—Introduced by Senator Willis of Ohio, July 1, 1922. Referred to the Committee on the Judiciary. A penalty of from one year to ten years in prison and a fine of from $1,000 to $10,000 is provided in this proposed legislation to prevent the forging and counterfeiting of permits to obtain liquor from bonded warehouses and the forging and counterfeiting of a physician's prescription blank. Any person advising, aiding, procuring and connecting himself in any way with such an offense is also deemed equally guilty, according to the terms of the bill.

H. R. 12234. Pensions for Nurses.—Introduced by Mr. Denison, June 30, 1922. Referred to Committee on Invalid Pensions. This bill would revise pensions to soldiers and sailors of the Civil War and War with Mexico, their widows and dependents and certain army nurses.

A REVIEW OF LEGISLATION CONCERNING HEALTH EDUCATION DATED JULY 1, 1922

There are now before Congress two bills which are of special interest and importance in the field of national health education. They are the Smith-Towner Bill creating a Federal Department of Education and the Fess-Capper Bill for the promotion of physical education in the United States.

H. R. 7, S. 1252. The Smith-Towner Bill was introduced in the House as H. R. 7 on April 11, 1921, and in the Senate as S. 1252 on April 27, 1921. This bill would create in the government a new department of education headed by a cabinet officer. One of the duties of this department would be to undertake research in physical education, including health education, recreation, and sanitation. An annual appropriation of $20,000,000 is authorized for the purpose of promoting physical education and instruction in the principles of health and sanitation. This sum would be apportioned to the states which qualify under the provisions of the act in proportion to population. No action has as yet been taken on this proposed measure.

A Joint Congressional Committee on the Reorganization of the Federal Departments has been working for about a year on a plan for general reorganization of the government. This committee embraces in its scheme a department of welfare which would include divisions of education and health. A bill for a department of welfare was introduced in Congress last April, but this has been laid aside pending the reorganization report. The Smith-Towner Bill is also being held up until this report has been made. It seems likely that it will yet be some time before various differences of opinion concerning the proposed reorganization can be straightened out among cabinet members, and a general bill introduced.

H. R. 22, S. 416. The Fess-Capper Bill was introduced in April, 1921, as H. R. 22 and S. 416. It authorizes an initial annual appropriation of $10,000,000 for coöperating

with the states in the preparation of supervisors and teachers of physical education, including school-health supervisors and school nurses. In subsequent years there would be allotted to the states in the proportion of their population between the ages of six and eighteen years not more than $1 per child between these ages. A division of physical education would be established in the Bureau of Education to administer the act. Three hundred thousand dollars would be appropriated for the expenses of this division and $200,000 would be allotted to the U. S. Public Health Service for investigations relating to health supervision of school children. No action has been taken on this bill to date. Since similar provisions occur in the Smith-Towner Bill, as outlined above, the former seems more likely to be considered, if any bill on this subject is taken up in Congress.

State Legislation for Physical Education enacted up to July, 1921, is summarized in a pamphlet recently issued by the U. S. Bureau of Education (Bulletin 1922, No. 1). No legislation on this subject was enacted by many of the states, the legislatures of which were in session in 1922.

A synopsis of the child-hygiene laws of the several states, including school medical inspection laws, is contained in a pamphlet issued by the United States Public Health Service, November, 1920 (Public Health Bulletin No. 110).

STATE HEALTH NOTES

GENERAL

Alabama

The City Health Department of Birmingham has purchased 5,000 fly swatters which are being distributed to the homes in the city by the Boy Scouts.

District of Columbia

Dr. John T. Sprague was appointed chief of the Bureau of Preventable Diseases and director of Bacteriological Laboratory, June 16, 1922.

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Dr. James G. Cumming, Assistant Health Officer, resigned to go to Philadelphia as chief of the Bureau of Health, effective July 23, 1922.

The appropriation act for the fiscal year 1923 curtails in many instances appropriations for the conduct of the various services of the Health Department.

Florida

The Florida State Board of Health is continuing its venereal disease control fight with a considerable degree of success. Educational work is bringing about a more widespread knowledge of the menace constituted by these diseases, morally, physically, financially and industrially. One of the most hopeful signs is that substantial business men and large taxpayers are beginning to count up the costs of venereal disease to the state, and are reaching the conclusion that more money appropriated by the state and spent wisely by a strong State Board of Health is one of the primary needs in good government.

There are at present twelve clinics in the state for the free treatment of indigent cases and for a graduated fee in cases not indigent but not able to pay a full fee. Four of these clinics are conducted by physicians employed by the Standard Lumber Company, of which Thomas Hamilton of Live Oak is president. Public health in Florida is fortunate in that while Mr. Hamilton is one of the state's strongest business men, he is at the same time deeply interested in all matters pertaining to the control and eradication of venereal disease.

This work is a part of the work of the Division of Venereal Diseases, which is one of the divisions of the Bureau of Communicable Disease of which Dr. George A. Dame is Director.

Illinois

The State Department of Public Health has recently put into motion a campaign in favor of milk pasteurization. A model ordinance has been drawn up and the twenty-odd district health superintendents have been instructed to take advantage of every opportunity and to use every effort at their disposal in securing the adoption of the ordinance by the various communities in their several districts. Two recent and rather serious outbreaks of typhoid fever which were traced to the use of raw milk have aided materially in the success of pushing the campaign in certain sections. Nearly a score of the larger cities have the proposi-

tions of adopting the ordinance now up for consideration, while half a dozen have already adopted and are now enforcing it.

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The State Department of Public Health announces the completion of a new bulletin setting forth detailed instructions in reference to the medical inspection of school children. The function of the school physician, the place and work of the school nurse and the part that should be played by the teacher, as viewed by the Department, are all described. It is felt that the bulletin will be especially helpful to public-health officers, school nurses and teachers. Copies may be had by individuals or organizations in Illinois without cost.

✣

Typhoid fever cases reported to the State Department of Public Health for the first six months of 1922 show but slight deviation from the normal for similar periods in recent years, while whooping cough shows a marked decline. A total of 526 cases of typhoid have been reported for the half year, compared with 561 and 648 for the same months in 1921 and 1920, respectively. Only 3,629 cases of whooping cough have been reported, against 9,066 and 8,554 for the periods mentioned above. With the exception of rather sharp outbreaks at Kewanee, Marshall and Greenville, the typhoid incidence has consisted of isolated cases that were well scattered throughout the state. Springfield and one or two other points are in the midst of rather severe whooping cough epidemics.

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A new type of chlorinator, the first of its kind to be used in this section of the country, has recently been installed at the public water supply plant in Christopher. The new machine was purchased to replace one of an old type that has failed to measure up to the standard of service desired. Sanitary engineers attached to the State Department of Public Health are watching the operation of the new chlorinator in order that city officials and health officers in other parts of the state may benefit by the experience at Christopher.

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The division of social hygiene of the State Department of Public Health is coöperating with the division of venereal diseases of the U. S. P. H. S. in carrying out a recently developed plan whereby the advice and counsel of several of the nation's most prominent syphilographers and genito-urinary surgeons are made available to the practicing physicians without cost. The plan is referred to as the "Consultation by Correspondence" service. Private practitioners may forward descriptive information and other essential data relative to any of their patients either through the State Department at Springfield or directly to the U. S. P. H. S. at Washington, and it will promptly be placed in the hands of the proper authority for detailed and comprehensive discussion and reply. It is felt that this service will prove of exceptional benefit to the general practitioner who is urged to avail himself of this very practical means of contact with the specialists.

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A campaign for the eradication of mosquitoes and the prevention of malaria at Carbondale is now in full swing. A local fund of about $2,000 has been raised, and the Illinois Central Railroad, which maintains division headquarters and shops at the northern edge of the city, is expending about $8,000 for draining swamps and constructing ditches. A fishing club on a lake at the southern edge of the city is also financing the work to eliminate mosquito breeding in the lake. The State Department of Public Health is directing the work with the coöperation of the U. S. P. H. S. and the International Health Board. The Lions Club has guaranteed the local fund and the Boy Scouts and all civic organizations are coöperating to make the work effective.

Indiana

Dr. Arthur L. Oilar, all-time health officer of Fulton County, will visit some of the counties of Virginia and North Carolina which have all-time health officers and have made a reputation for good work.

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Fifty-seven towns and cities in Indiana in 1921 made improvements in their water supply. The improvements included complete filter systems, chlorination outfits, new reservoirs, private laboratories, new pumps, substitution of electric power for steam power, and boring of new deep wells.

Frank Wilson, milk expert employed by the Indiana State Board of Health, is now in Anderson with his traveling laboratory.

making a thorough milk survey of that city. He is meeting with good support from the business men and all the public organizations and newspapers.

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The Indiana State Tuberculosis Hospital for Children, voted by the Legislature of 1921, is now in process of erection on the state farm in Parke County, where the original state hospital was erected in 1909. The cornerstone of this hospital was laid July 12 by the governor of the state, assisted by Dr. J. N. Hurty, state health commissioner, both delivering addresses.

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The Health Board of Gary, Indiana, recently filed forty-seven prosecutions for violation of health laws in one day. All of these prosecutions were successful and fines were applied in each case. They were chiefly for insanitary conditions in the distribution of food and milk.

Iowa

A public-health conference was held at the University of Iowa July 18 to 21. This was the first conference of this nature held in Iowa since 1917, and was a big success in every way, so great, in fact, that a resolution was passed asking that it be made an annual event. The total registration of health officers, public-health nurses and others interested was about 50, an encouraging number for a new event. All the meetings were held in the Medical Laboratory Building, where exhibits of laboratory apparatus, models, charts and forms used in public-health work were displayed. The opening address was made by Dr. Walter A. Jessup, President of the University. Many subjects were covered by the various addresses, and inspections were made of the Children's Psychopathic Hospitals and the State Tuberculosis Sanitarium at Oakdale. Earl L. Waterman, Associate Professor of Public Health, was director of the Conference.

Kansas

Due to the resignation of Dr. Frank G. Pedley as epidemiologist, on Sept. 1 Dr. C. H. Kinneman will succeed him.

At the annual meeting on June 29 the State Board of Health created a new Division of Public Health Nursing, with Miss Hulda Cron as chief.

On Sept. 18-20 the Kansas Public Health Association will meet at Wichita.

Kentucky

Dr. Albert Stewart of Georgetown has been appointed director of the Scott County Health Department to succeed Dr. H. V. Johnson. The all-time health department in Scott County has been operating for two and one-half years under the direction of Dr. W. N. Lipscomb and Dr. H. V. Johnson.

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Miss Helen Donaldson, acting director of the School of Public Health of the University of Louisville and State Board of Health, is attending the summer school at Teachers' College, Columbia University, and will report back for duty Sept. 1.

Dr. J. S. Locke, director of the Bureau of Tuberculosis of the State Board of Health, and Dr. S. W. Bates, superintendent of the State Tuberculosis Sanitarium, are conducting a series of tuberculosis clinics in eastern Kentucky and report that splendid results are being obtained.

The annual tour of the Traveling Trachoma Clinic, under the direction of Dr. C. B. Kobert, director of the Bureau of Trachoma of the State Board of Health, began June 20. The following counties will be included in Dr. Kobert's itinerary: Hardin, Hart, Medcalfe, Edmonson, Greene, Butler and Cumberland.

Dr. Annie Veech, director of the Bureau of Child Hygiene, with the assistance of Dr. Alice Pickett and nursing staff, is conducting a series of child hygiene conferences and schools for midwives in southeastern Kentucky.

Dr. Jethra Hancock, director of the Bureau of Venereal Diseases, is carrying out an intensive campaign against the traveling carnival in the rural counties in the state.

A program of dairy inspection and tuberculin testing of cattle is being conducted by the Bureau of Food, Drugs and Hotels, in coöperation with the State Veterinary Department, under the direction of Miss Sarah Vance.

The Kentucky State Medical Association will meet in Paducah, Kentucky, Oct. 16 to 19. Dr. J. H. Stucky of Lexington is president, and Dr. A. T. McCormack, Louisville, is secretary.

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An early issue of the *Kentucky State Medical Journal* will be published as a memorial

to the life and work of the late Dr. J. N. McCormack. The publication of this issue will be under the direction of his life-long friend and associate, Dr. Lewis S. McMurtry, president of the Kentucky State Board of Health.

Maine

Governor Percival P. Baxter, with the advice of the Council, has rejected the provisions of the Sheppard-Towner Bill until the State Legislature meets.

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The Governor and Council have passed an order appropriating $5,000 from the State Contingent fund to be spent under the direction of Dr. C. F. Kendall, State Commissioner, during the next six months period.

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The University of Maine at Orono, and Bates College, at Lewiston, have established courses in public health, at their summer schools.

Massachusetts

Dr. Mabel A. Southard and Dr. Mary DeKruif have been appointed physicians to the Division of Hygiene, to do investigative work in the field of maternal and infant hygiene.

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Miss Evelyn C. Schmidt, health instructor in mouth hygiene, was delegated to attend the annual meeting of the National Dental Association in Los Angeles, California, July 17 to 22. The Department's mouth hygiene exhibit was shown.

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On June 9, 1922, the Legislature passed an order directing the Department of Public Health to investigate the entire subject of tuberculosis, including the matter of state, county and municipal tuberculosis hospitals, or hospital districts created by legislative act. This order further directed the Department to ascertain the cost of construction of tuberculosis hospitals and the present maintenance cost, and to report as to the advisability of the Commonwealth taking over and thereafter maintaining said hospitals. Finally, the Department was directed to report on the general policy to be pursued by the Commonwealth as to methods of treatment and distribution of expense.

In compliance with this legislative order Dr. Eugene R. Kelley, Commissioner of Public Health, appointed the following Special Board to make a study and to prepare a report: Dr. Sumner H. Remick, Chairman, Dr. J. E. Lamoureux, Dr. Roger I. Lee, Mr. Warren C. Jewett, Dr. Bernard W. Carey, Dr. Lyman A. Jones, Recorder.

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The legislature has authorized a Division of Mental Hygiene within the State Department of Mental Diseases.

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Through its Division of Hygiene, the Massachusetts Department of Public Health is developing plans for extending its maternity and infant hygiene service. The first feature of the new program to become effective will be an investigation of the causes of maternal and early infant deaths during the past year in Massachusetts. Two physicians have been added to the staff, as well as a vital statistician, to carry on this work. A supervisor and a staff of five nurses will soon be attached to the Division, whose main purpose will be to stimulate prenatal and infant care by the extension of public-health nursing service into regions not reached, by helping to raise standards of work already under way, and by a variety of educational methods demonstrating to the people the value of prenatal, maternal and early infant care.

In developing this work the policy of the Department will be in no wise changed, the main objective being, as heretofore, to stimulate and to assist the local community in meeting its own problem.

Michigan

"Fifty permanent mother and baby health centers in Michigan before July 1, 1923" was the slogan adopted at the first meeting of representatives of women's organizations which worked for the passage of the Sheppard-Towner bill. The meeting was called by Dr. Blanche M. Haines, director of the bureau of child hygiene and public-health nursing, to present bureau plans to the women supporters.

Representatives of seven state organizations (State Federation of Women's Clubs; Congress of Mothers and Parent-Teachers Associations; League of Women Voters; Woman's Christian Temperance Union; Women's Benefit Association of Maccabees; Ladies of Maccabees; and Michigan Agricultural College, Extension Department) voiced approval of the proposal to establish mother

and baby centers and plans were launched to begin the work, made possible by the passage of the Sheppard-Towner Bill. Directly after the meeting a health department representative left for Allegan county to organize a demonstration center, to be used as an example for other counties. It is planned to organize and operate the centers through local committees working in cooperation with state representatives.

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John P. Sanford, law enforcement officer of the venereal disease bureau of the Michigan Department of Health, died Tuesday, July 4, of heart disease. Mr. Sanford has been identified with the health department for the past four years.

Minnesota

Dr. Leverett D. Bristol, formerly connected with the medical faculties of Syracuse, Minnesota, Bowdoin and Harvard, and more recently director of the North Dakota Public Health Laboratories, and then State Commissioner of Health in Maine, has been appointed professor of preventive medicine and public health in the Medical and Graduate Schools of the University of Minnesota.

Montana

The fourth annual meeting of the Montana Public Health Association was held in Great Falls at the Junior High School Building, July 10 and 11. Officers of the Association are John G. Brown, president; Mrs. S. M. Souders, first vice-president; W. F. Cogswell, M.D., secretary.

Addresses were made by the president of the association, Mayor R. M. Armour, Dr. B. L. Pampel of the State Board of Health, Miss Edith Kassing, Supt. Montana Vocational School for Girls of Helena, Dr. H. S. Cumming, U. S. Public Health Service, Dr. T. B. Beatty, State Health Commissioner of Utah, Dr. E. M. Hammes, St. Paul, Minn., Dr. James J. Waring, Denver, Colo., Dr. F. C. Rodda, Minneapolis, Minn., and others. At the section meetings numerous interesting papers were read, followed by discussions.

New Hampshire

The statistics recently compiled in the vital statistics department of the State Board of Health show that in 1921 there were 10,125 births, 6,098 deaths. The birth-rate per 1,000 population was 22.78, the highest in thirty-eight years for which statistics have been compiled. The death-rate per 1,000 population was 13.72, the lowest in thirty-eight years.

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The New Hampshire State Board of Health has started its pioneer work in prenatal and infancy hygiene in Sullivan County as that district seemed to be a particularly good field, the infant mortality being high. A nurse has been placed there who has had splendid training and unusual experience in this line of work. Her work will be confined largely to the rural districts, and mostly of an educational advisory character. A broad educational program has already been started in order that the public should see and understand the vital necessity for prenatal care and infancy and child hygiene.

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The Merrimack County Medical Association, at a recent meeting, went on record as advocating a clinical examination of presumably well people twice a year. The family physicians are at the clinics. Physicians of Merrimack County are determined to conduct an energetic campaign in the interest of better health. The resolution was also passed stating the desirability of treating tuberculous patients at general and municipal hospitals, providing separate wards be maintained. Over 700 children in Hillsborough County have already had the benefits of the rural dental clinic which has been operating there for the past six months under the auspices of the local school boards and the Farm Bureau. Calls for the clinics have been received from a number of other towns in other counties.

✚

At a recent meeting of the directors of the New Hampshire Tuberculosis Association, it was voted to hold the annual meeting in Nashua the latter part of October in the form of a public-health conference open to the public and health workers throughout the state.

A tuberculosis clinic was held during the month of July in Lancaster. This center will accommodate many of the surrounding towns and is the second to be opened in Coos County. A third is to be opened in September in Colebrook, making a total of

thirty tuberculosis health clinics established in the state by the Association.

✣

A nurse whose entire time will be devoted to the tuberculosis cause has been placed in Sullivan County. A thorough county survey is to be made, and clinics will be held in Claremont and Newport.

✣

The New Hampshire Tuberculosis Association, coöperating with the State Board of Health in its desire to be of service to the public-health workers in the state, has opened its public-health library to all nurses engaged in this form of work.

New Mexico

Dr. LeRoy S. Peters, Albuquerque has been appointed to the State Board of Public Welfare to succeed Dr. A. G. Shortle, who died in May.

Miss Bertice A. Rees, R. N., has been appointed to do demonstration work in the hygiene of maternity and infancy, under the allotment made to New Mexico from Sheppard-Towner funds. Through the same funds the State Bureau of Health has been enabled to engage Miss Louise Wills, R. N., as a midwife instructor. It is planned to have Miss Wills visit the eight counties in which full-time health units are organized, giving a course of instruction to classes of midwives, in accordance with a series of lessons prepared by the Bureau of Public Health. It is intended that the local health officer and nurse shall continue supervision over these midwives after they have received their course of training.

✣

A large number of new regulations have been prepared by the Bureau of Public Health, and will be submitted to the State Board of Public Welfare at its next meeting. These regulations have to do with the sanitation of swimming pools, of labor camps and of camp grounds, the operation of sewage disposal plants, the use of a prophylactic for the prevention of infant blindness and additions to the regulations now in force.

✣

The Bureau of Health has recently purchased a De Vry Motion Picture Projector and a Balopticon for educational purposes. The projector is of a 30-volt type, designed for operation on storage batteries and will be used in rural communities.

✣

The Public Health Laboratory at the University of New Mexico, Albuquerque, is receiving an ever-increasing number of specimens for examination. The total number examined in 1920 was 3,851, while in 1921 it was 7,787. For the first six months of this year, the specimens numbered 4,865, which will mean that at least 9,000 will be handled by the end of the year, if the same rate prevails.

New York

Dr. M. Luise Diez of Philadelphia has been appointed obstetrician in the Division of Maternity, Infancy and Child Hygiene of the New York State Department of Health. Dr. Diez is a graduate of the Women's Medical College of Pennsylvania and had her interneship at the West Philadelphia Hospital for Women. She has had 15 years of obstetric practice in Philadelphia and has been attending obstetrician at the Women's Hospital of Philadelphia and on the obstetric and gynecological division of the Philadelphia General Hospital, and the West Philadelphia Hospital for Women. She has, in addition, had a special postgraduate course in obstetrics at Dresden, Germany.

✣

Valconlon L. Ellicott, M. D., Dr. P. H., of Baltimore, has been appointed epidemiologist in the New York State Department of Health. Dr. Ellicott is a graduate of the Medical School and the School of Hygiene and Public Health of Johns Hopkins University. Since graduation he has served as interne in the Willard Parker Hospital, New York City.

Ohio

The results of an investigation made by sanitary engineers from the Great Lakes station at Chicago, under the direction of Arthur E. Gorman in the summer of 1921 showed that the water for drinking and culinary purposes on steamboats was supplied in a very unsatisfactory manner. In some instances the water was carried in buckets and barrels from approved sources on shore, in others by pumping direct from the river.

This has all been changed, and the water now supplied is of dependable purity on all steamboats operating out of Cincinnati, thus

insuring travelers against the danger of polluted drinking water. There are two water service lines, one at each end of the public landing, running to the wharves with taps at different levels so that filtered water can be drawn at various stages of the river.

All of the steamboats calling at Cincinnati have now been equipped with approved metal storage tanks and piping systems for storage and distributing city water, and modern water coolers in which the water does not come in contact with the ice.

Coöperating with the United States Public Health Service one of the sanitary inspectors has been collecting samples of the water used for drinking and culinary purposes every week on each steamboat. Over one thousand samples have been analyzed in the laboratories of the health department and the results forwarded to the district engineer. Mr. A. L. Dopmeyer, in charge, reports that all of the vessels now calling at the port of Cincinnati are equipped in such a way that they will supply a water to the public for drinking which is as safe and pure as that supplied to citizens in their own homes. Certified water stations have also been established from Pittsburgh to Cairo along the Ohio River.

Pennsylvania

James F. McCoy, executive secretary of the Pennsylvania State Health Department, has been appointed private secretary to Governor William C. Sproul. Clinton T. Williams, former chief of the Division of Accounts, State Health Department, is now serving as executive secretary.

Miss Leona Mitchell, a graduate of the Rochester Dental College, has been attached to the Dental Division of the State Health Department. She will give lectures and demonstrations before the school children of the state.

✣

A camp for 200 undernourished school children, taken from the rural districts of the state, has been opened on the grounds of the state sanatorium at Hamburg. They will be properly fed, exercised and rested that they may be in normal physical condition when the fall school term opens. More than 600 applications were received from doctors, nurses, and school teachers, asking this service for undernourished children under their care.

✣

Members of local boards of health in Pennsylvania have banded together in groups comprised of several counties.. Permanent organizations for a uniform enforcement of state health laws and regulations have been effected, officers elected and constitutions adopted. Members of the State Health Department attend their meetings for the purpose of answering questions which may arise regarding health law administration, and to show how these laws can, and should be, enforced by the local authorities.

Tennessee

Roane and Montgomery Counties have approved budgets for the new fiscal year by which county health demonstration work will be continued in coöperation with the Bureau of Rural Sanitation of the State Board of Health. In both counties very effective work has been done in the past and a material expansion of activity is planned for the coming year.

✣

Williamson County has just approved, by unanimous vote of the budget committee, the budget for the second year's work of its full-time health department. This department was established in coöperation with the State Board of Health one year ago with a budget of $9,000, and begins work during the new fiscal year with a budget of approximately $12,500 and a staff consisting of a full-time health officer, health inspector, three public-health nurses, and a clerk-technician. The county has about 24,000 people and will be well served by a health department involving a per capita expenditure of over fifty cents.

✣

Gibson County, by an overwhelming vote of its county court, established a full-time health department and approved the county's portion of a coöperative budget arranged between the State Board of Health, the local Red Cross, and the county. While the county has about 40,000 people, the total budget of $12,500 will provide an effective health department. Leading features of the program will be communicable disease control, child hygiene and, county-wide malaria control activity.

PUBLIC HEALTH LABORATORY NOTES

Abstracted by ARTHUR LEDERER, M. D.

Studies on Blood Cholesterol in Syphilis.—The positive Wassermann reaction on the blood apparently does not depend on high cholesterol value. While it is interesting to corroborate this fact, it is not surprising in view of the probable complexity of the Wassermann reaction. The amount of arsphenamin given and the time between injections do not obviously affect the blood cholesterol values. If cholesterol is an agent of defense in syphilis, it has not been detected in most cases in greater amount than might be expected in a series of average nonsyphilitic persons, and hence it is not affected materially by treatment for syphilis. The majority of syphilitic patients have high or normal differences between the Bloor I and Bloor II values, while only a few have low differences; the significance of this has not been determined. There is, apparently, no relation between the cholesterol values and the clinical and serologic response of the patient. The only recognizable relation between the clinical type of syphilis and blood cholesterol values is the large proportion of high cholesterol estimations in syphilis of the central nervous system.—Albert R. McFarland, *Arch. Dermat. Syph.* 6, 39 (1922).

✣

Studies in Post-Mortem Bacteriology.—Bacteriologic cultures were made post mortem in 213 cases. The blood was cultured in 206 cases and it was positive in eighty cases. The spleen was cultured in 190 cases and was positive in 75 cases. The spleen serves as well as, if not better than, the heart's blood for determining a terminal bacteremia. If discrepancies occurred in the results obtained by ante-mortem and post-mortem cultures, these differences were generally explained by the evidence of a superimposed process revealed at necropsy. Uniformly negative results secured in the cases which are ordinarily regarded as non-infectious in type, strengthen the authors' belief in the reliability of cultures made post mortem. A failure to obtain positive blood cultures in 51 cases, in which an abundant focus of infection was demonstrated at necropsy, leads the authors to believe that invasion of the blood stream after death rarely occurs. It is possible that terminal invasion may occur, and if it does occur it must not be dismissed, as it may be the most important contributory factor to the cause of death. With strict adherence to a reliable technic, post-mortem bacteriologic findings are extremely valuable.—Alfred S. Giordano and Arlie R. Barnes, *Jour. Lab. Clin. Med.* 7, 538 (1922).

✣

Widal Technic Using Sterilized Cultures.—Killed cultures of typhosus have proved unsatisfactory for the microscopic agglutination test for typhoid. They are satisfactory, however, for use in macroscopic agglutination tests. If more comparable results are to be obtained in different laboratories, it may be desirable to have carefully standardized killed cultures prepared at a central laboratory for distribution.—Ruth Gilbert and Anna C Moore, *Jour. Lab. Clin. Med.* 7, 547, 1922).

✣

A Simple Method of Counting the Cells in Cerebrospinal Fluid.—The counting chamber used was the Levy counting chamber with double Neubauer rulings. The diluting fluid is that recommended by Levinson (Methyl violet 0.2 gm., glacial acetic acid 3 c.c. and water to make 100 c.c.). With a pipette (1. c.c.) accurately mix equal parts of cerebrospinal fluid and diluting fluid (0.5 c.c. of each). Adjust cover of counting chamber and with a fine capillary pipette, allow preparation to flow over both rulings, using the same precautions as in making a preparation for a blood count. Let settle five minutes for the cells to stain and for the preparation to become even. Count all the cells in the four corner blocks of sixteen large squares used for counting white blood cells and the central block of four hundred small squares used for the red blood count. Move to the other ruling and repeat the process. The total number of cells counted multiplied by two gives the total cells per cubic millimeter. Use the high dry lens because the cells are not mistaken for debris and the differential count

may be performed at the same time.—Chas. F. Carter, *Jour. Lab. Clin. Med.* 7, 555 (1922).

✣

The Making of Collodium Sacs.—The greatest difficulty in the making of dialysis membranes is the separation of the collodium sac from its glass mold. To obviate this difficulty the following technic has been successfully used: Place a small collar of paper one inch wide in the mouth of the tube before adding the collodium. Then pour the collodium into the tube, filling it completely. The collodium is then poured back into stock and the tube allowed to dry by hanging upside down for a few minutes. The tube is then placed in a 55° C. thermostat (drying oven) for one-half hour, or allowed to stand at room temperature for several hours, to allow the collodium to dry. At the end of this time the collar is gently pushed in at some point and distilled water poured in between the collodium sac and the glass container. As soon as the container is full of water the sac can be easily removed. By this method as many as twelve bags can be loosened in ten minutes. The paper collar is a very convenient handle for the sac, both in the separation from the glass mold and afterward. An illustration accompanies this article.—Nathan Muskin and Louis Siegel, *Jour. Lab. Clin. Med.* 7, 564 (1922).

✣

Van den Bergh Test in Differentiating Types of Jaundice.—The value of this test in the differentiation of obstructive from what may be termed functional and hemolytic jaundice is illustrated by reports of cases. Van den Bergh applied the so-called "diazo reaction" first described by Ehrlich to detect the presence of bilirubin in blood serum. Normal serum contains bilirubin in a dilution of from 1:400,000 to 1:250,000. Such a dilution in human serum is readily detected by the diazo test. No other substance likely to be present will give the reaction. To 1 c.c. of blood serum, in a small test tube, 0.25 c.c. of freshly prepared diazo reagent is added. The color reaction obtained in from ten to thirty seconds is a bluish violet, of intensity depending on the amount of bilirubin present. A delayed reaction begins only after from one to fifteen minutes, or even longer, and consists of the development of a reddish coloration, which gradually deepens and becomes more violet. If the reaction is immediate or direct an obstructive jaundice is indicated. Where no direct reaction has been given, but a perfect indirect reaction after alcohol precipitation, then the jaundice can be inferred to be either hemolytic in origin or dependent on some functional derangement of the liver cells without obstruction.—J. W. McNee, *Brit. Med. Jour.* May 6, 1922; *Jour. A.M.A.* 78, 1928 (1922).

✣

Heat Test for Sugar in Urine.—The author states that a drop of urine containing sugar evaporated on a microscopic slide over the flame of a spirit lamp leaves a "tacky" glistening film of syrup. Further heating converts the deposit into burnt sugar or caramel. Urine containing 14 grains to the ounce according to fermentation test, gave the reaction after dilution with five times its volume of water.—J. Livingston, *Brit. Med. Jour.* May 6, 1922; *Jour. A. M. A.* 28, 1929 (1922).

✣

Use of Phenol Red as Indicator.—The author adds one part of condensed milk to four parts of tap water. To 5 c.c of this a few drops of phenol red solution are added, and tenth-normal sodium hydroxide solution is added to the diluted milk in bulk and sufficient saturated aqueous solution of phenol red to make the milk a vivid brick-red; provided that care is taken to stop the addition of alkali when the brick-red color is reached corresponding to $\frac{a}{p_H}$ of approximately 7.5 the subsequent production of acid or alkali by an organism in this medium will be demonstrated clearly. The medium is then tubed and steamed for 20 minutes on three successive days. Such a medium is said to show changes in reaction in a much more vivid manner than does litmus milk, and the production of an initial acidity, which is followed by alkalinity, as in the case of B. paratyphosus B, is well demonstrated.—H. C. Brown, *Lancet, London* April 29, 1922; *Jour. A.M.A.* 78, 1930 (1922).

✣

Composition of Human Blood.—Among the data compiled by the authors for their research on ten men and ten women is the finding that there is approximately 2 per cent more ash in the blood of men than of women. The average number of red corpuscles in normal men ranged from 4,750,000 to 6,333,000 with the extreme limit at 6,500,000. In normal women the range was from 4,000,000 to 4,250,000 and up to 5,250,000, and extreme limit, 5,500,000. Men's blood can absorb more

oxygen than women's blood. This is evidently due to the larger proportion of corpuscles.—V. Bie and P. Moeller, *Arch. Malad. du Coeur*, 15, 177 (1922); *Jour. A. M. A.* 79, 165 (1922).

✚

Precipitation Velocity of Blood Corpuscles in the Diagnosis of Surgical Affections.—The author found in a group of 100 uncomplicated fractures an increased rate of precipitation of blood corpuscles in all cases. In the most severe fractures the increase was noted twelve hours after the accident at the earliest, but always after twenty-four hours. In hundreds of other surgical cases it was observed that the rate of precipitation paralleled the size of the area affected by the inflammation or the amount of degeneration in a tumor. This finding has practical diagnostic value in abdominal surgery, in order to form a judgment in regard to the size of the affected area; especially in appendicitis, for during the intervals in which the inflammation dies down there is no increase in the precipitation rate.—W. Loehr, *Deutsche med. Woch. schr.* 48, 388 (1922); *Jour. A.M.A.* 79, 84 (1922).

✚

Test-Tube Holder for Collection of Ureteral Specimens.—The test-tube carrier consists of a strap 1 inch in width, attached by buckles to the stirrups of the cystoscopic table. The strap is best made of some nonabsorbable material, such as thin rubber sheeting. There are two pockets on the strap which are made of garter elastic to accommodate themselves to any size test-tube or centrifuge-tube. When not in use the strap is released from one stirrup and allowed to hang from the other, and is always at hand for the collection of ureteral specimens.—Charles S. Levy, *Jour. Urol.* 7, 333 (1922).

✚

Colon Bacilli in Renal Infections.—Colon bacilli can be isolated from the cervix of the uterus and from feces of patients with renal infections which correspond in serologic and biologic tests to the bacilli from the urine of the infected kidney. Some hemolytic colon bacilli belong serologically in the same group. The hemolytic property is not accidental but persists during weeks of infection in the urinary tract as well as on artificial media. There is no definite relation between hemolysis by colon bacilli and their fermentation of sugars. The incidence of hemolytic colon bacilli in renal infections is greater than generally known and this type of bacillus has a greater average of virulence than the nonhemolytic but the latter appears to persist longer.—R. D. Herrold, *Jour. Urol.* 7, 473 (1922).

✚

Immunological Studies on Diphtheria Bacilli.—The group of diphtheria bacilli contains strains belonging to several agglutination types. The toxins formed by these different types are, however, qualitatively alike and, from the practical standpoint, quantitatively so. Whether or not there are slight quantitative differences, further studies will be necessary to show. Strong toxin from any diphtheria strain is suitable for the Schick test and for immunization of man or animal. A monovalent antitoxic serum is suitable for protective and curative measures against all diphtheria strains.—W. D. Park, Anna W. Williams and Alice G. Mann, *Jour. Immun.* 7, 243 (1922).

✚

A Synthetic Medium for Growing Tubercle Bacilli.—The authors claim that they have succeeded in producing synthetic medium for the cultures of tubercle bacilli, which is constant in composition and of a suitable hydrogen-ion concentration. The full formula is as follows:

Acid potassium sulphate	0.25 gms.
Potassium monophosphate	0.5 gms.
Magnesium sulphate	0.25 gms.
Sodium nitrate	1 gm.
Ammonium carbonate	1 gm.
Asparagine	4.5 gms.
Glucose	5 gms.
Mannite	5 gms.
Glycerine	20 gms.
Potassium silicate	0.02 gms.
Iron sulphate	0.03 gms.
Distilled water	1 litre

The hydrogen-ion concentration of the mixture is 6.9. If such a medium is innoculated with a large surface, up to 1 gm. of dried bacilli may be obtained in 20 days. The simplicity of composition of the culture medium, its constancy of results, the abundance of yield, and the possibility of obtaining by its use a tuberculin free from peptone, are noteworthy points.—Borrel, Coulon, Boez and Quimaud, *C. R. Soc. Biologie*, Feb. 18, 1922; *Brit. Med. Jour.* May 6, 1922.

The Staining of Spirochetes in Films.—Fix the films in a mixture of formaline 2 parts, acetic acid 1 part, water 100 parts; complete fixation in alcohol-ether. Heat in a test tube the following fluid, which has been recently filtered: 5 per cent tannin 3 parts, 3 per cent aniline hydrochloride 1 part; pour the boiling water on the film and allow it to cool. Wash off in running water. Stain for a minute in boracic methylene blue. The spirochetes stain blue.—Puente, *C. R. Soc. Biologia*, Feb 18, 1922; *Brit. Med. Jour.* May 6, 1922.

✚

A New Modification and Application of the Gram Stain.—In developing a modification of the Gram stain which could be used in staining milk smears, the difficulty has been to secure a decolorizing solution which would allow the Gram-positive organisms to retain the stain and still remove the color from the milk and the Gram-negative types. The stain is as follows:

Gentian-violet solution.

Aniline oil	3.0 c.c.
Alcohol (absolute)	7.0 c.c.
Water	90.0 c.c.
Shake; filter	
Genetian violet (Gruebler)	2.0 gms.

Iodine Solution

Iodine	1.0 gms.
Potassium iodide	2.0 gms.
Water	300.0 c.c.

Decolorizing Solution

Aniline oil (2 parts) / Xylol (1 part)	mixture 5 parts.
Alcohol (95%)	95 parts.

Counter Stain

Bismarck Brown	4.5 gms.
Water (boiling)	50.0 c.c.
Filter	
Alcohol (95%)	30.0 c.c.

The method has been used for the routine examination of milk samples for an entire season with great satisfaction.—G. J. Hucker, *Jour. Bact.* 6, 395 (1922).

✚

Medicolegal Application of the Blood Group.—The criteria of Ottenberg to govern legitimacy by means of the blood group are dangerous. The blood group cannot be used in the adjudication of medico-legal disputes concerning parentage without carrying the grouping back at least three generations, and even then there exists the possibility, because of the heterozygous status of a parent, of an unexpected, yet legitimate, group appearing without its definite origin having been determined.—J. Arthur Buchannan, *Jour. A. M. A.* 79, 180 (1922).

✚

Icterus Index of Blood Serum.—Muehlingradt recently described a method for determining bile pigments in the blood. Briefly, it consists of comparing blood plasma with a standard solution of potassium bichromate and diluting the plasma with physiologic solution of sodium chloride until its color approaches that of the standard. The potassium bichromate solution (1:10,000) is approximately equivalent to the color of a nonicteric plasma. The author has modified this method, using serum instead of plasma. The technic is as follows: A solution of potassium bichromate 1:100,000 is used as a standard. From 5 to 10 c.c. of blood are obtained, and the serum allowed to separate. The serum is compared in a colorimeter (Duboscq) with the standard bichromate solution. The standard may be set at 10, 15 or 20 mm. The icterus index is obtained by dividing the reading of the standard by the reading of the unknown. When the color of the serum is too dark, and cannot be compared with the standard solution, the serum is diluted with physiologic solution of sodium chloride until its color approaches that of the standard. In 156 cases giving no clinical evidence of jaundice, the lowest value obtained was 1.6 (fracture of skull), while the highest was 12 (pernicious anemia), the average being 3.6. An icterus index varying between 2.5 and 6 may be considered as normal.—H. P. Maue, *Surg. Gyn. Obst.* 34, 752 (1922); *Jour. A. M. A.* 79, 243 (1922).

✚

Serodiagnosis from Blister Fluid.—The author remarks that the serum in a cantharides plaster blister responds to the Wassermann and the tuberculin tests like the blood serum but with less intensity. The assumption is gaining ground more and more that the skin is an organ with an internal secretion, and plays an important part in the production of defensive substances. This is evidenced, among other things, by the more generally favorable course of syphilis when a rash develops under mercurial or arsenical treatment.—A. Buschke, *Med. Klinik (Berlin)*, 18, 593 (1922); *Jour. A. M. A.* 79, 251, (1922).

INDUSTRIAL HYGIENE AND OCCUPATIONAL DISEASE

Abstracted by E. R. Hayhurst, M.D.

Lead Poisoning in Industry.—The large number of industries in which lead poisoning may arise tends somewhat to exaggerate the importance with which this disease is sometimes regarded. The author refers to the proposed prohibition of white lead in painting and to the proceedings of the International Labour Conference regarding the prohibition of white lead in paints, and states that sentiment rather than facts appeared to be the arguments relied upon by the Conference in discussing the question. The majority of the evidence related more to lead poisoning in general than that among painters. The Commission did not make a final recommendation for total prohibition of white lead in painting. Two tables are presented illustrating the attack rate and the relative severity of lead poisoning in various industrial processes. The most severe cases occur in processes in which but a limited amount of lead is absorbed each day over a long period of time, as exists in file making and house painting. Statistics of claims for occupational disease compensation in Great Britain in 1919 show that lead poisoning formed only 2.3 per cent of the total claims. In 1920 the ratio was about the same. Lead poisoning among painters formed about one-fourth of the total reported cases of lead poisoning. With reference to tuberculosis the author makes the interesting observation that tuberculosis among the painters is much more common than among other lead workers. This is attributed to the inhalation of silicious dust associated with the use of sandpaper in dry sanding. The occurrence of gout among painters is attributed to the volatile thinners used as a vehicle for the application of paint. The relative incidence of lead poisoning for given industries and the proportional risk attached to any given industry is still a matter of conjecture.

The mechanism of poisoning in the various processes is described in detail. The amount of risk of poisoning through lead gaining access to the mouth from unwashed hands is extremely small. Previous to 1900 various regulations were in operation with regard to the provision of washing accommodations, overalls, food and hygienic precautions; but from 1900 onwards the establishment of exhaust ventilation for dust removal in dusty processes was initiated and a diminution of cases of lead poisoning commenced at once. Charts are presented illustrating these points. The author ascribes the various lead paralyses to hemorrhages found in the sheaths of nerves supplying the affected muscles. The pathology and symptoms of lead poisoning are described in detail. With reference to paralysis it is stated that cases of wrist drop observed in the past twenty years have all recovered. Thirteen per cent of lead cases have rheumatic manifestations, mainly in the vicinity of joints. The greatest incidence of lead poisoning comes during the first year of exposure and the later years show only sporadic cases, which is attributed to the development of a certain amount of tolerance for the agent. As far as can be ascertained from observation and animal experimentation an amount greater than 2 mg. of lead per diem is an unsafe dose to absorb. Any factory air which shows that men exposed to it would inhale more than 2 mg. per day must be considered as highly dangerous. Periodical medical inspection with power to shift the workers from a dangerous process to a less dangerous one and industrial compensation for lead poisoning, tend to reduce the number of cases, "thus effecting the true aim of industrial hygienists, the improvement and safeguarding of workers by the introduction of precautionary and hygienic regulations without interference with the economic relations or the conduct of the industry."—Sir Kenneth Goadby. (Lecture delivered in the Royal Institute of Public Health.) *Jour. of State Medicine*, Vol. XXX, No. 3, March, 1922, pp. 93-112.—E. B. S.

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Tenth Annual Report of the Medical Department of the United Fruit Company.—This Bulletin has 110 pages, is unusually replete with statistical material showing such

features as the personnel of the medical department, summary of the work done at the various hospitals and dispensaries in Central America and the West Indies and the types of diseases encountered by both employees and passengers on the vessels of the company and at the various holdings. Dr. W. E. Deeks is general manager and has his headquarters at New York. The medical staff is placed at ten locations and comprises a total of 40 physicians, 21 nurses and 407 other employees. A total of 208,310 patients were treated (exclusive of steamships) during the fiscal year ended December 31, 1921. Of these, 110,943 were treated in hospital dispensaries, 71,077 in field dispensaries and the balance elsewhere. The vast proportion of these were colored employees, chiefly of Jamaica, Haiti, Spanish Honduras, Costa Rica, Columbia and Cuba. In regard to deaths due to endemic or infectious diseases there were: typhoid fever 24, malaria fever or cachexia 167, smallpox 3, influenza 22, cholera nostras 1, dysentery 33, tetanus 12, tuberculosis (all forms) 96, syphilis 5, and a number of others. Cancer caused the death of 20, bronchial pneumonia 77, and lobar pneumonia 157. The total number of deaths from all causes was 1,050. The grand totals for transmissible diseases were as follows: ankylostoma 2,386, diphtheria 26, dysentery 1,433, gonorrhea 3,970, malaria 36,278, measles 63, mumps 2, pneumonia 1,005, scarlet fever 1, smallpox 691, syphilis 3,431, typhoid 116, yaws 89; total 49,506. Complete surgical, laboratory and meteorological reports are attached as well as 3,480 cases of diseases treated on the company's New York passenger steamships and 3,873 treated on its New Orleans passenger steamships. The Bulletin is illustrated and the appendix contains the general recommendations for improving the health and welfare of employees and passengers.

Diseases peculiar to the tropics are conveyed mainly by insects or through drinking water or food contaminated with human excreta. With protection from insects, a supply of good drinking water, wholesome food and efficient disposal of sewage, one is practically assured of immunity from most of these diseases.

The most prevalent diseases in the tropics are malaria and hookworm.

Diseases due to the bites of insects are:

From mosquitoes—malaria, yellow fever, dengue, phlebotomus fever and filariasis.

From fleas—plague.

From flies—Oriental sore and screw worm.

From lice—typhus fever and relapsing fever.

From ticks—relapsing fever.

However, almost any insect, especially flies, may contaminate food with the germs of typhoid, cholera, dysentery, infantile diarrhea, tuberculosis and other diseases through the mechanical action of conveying the infectious bacteria on their bodies.

(One gets the impression that this work of the United Fruit Company is extremely well organized and efficiently performed.—E. R. H.) United Fruit Company, General Offices, Boston, Mass.

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Illumination and Reaction Time.—Among the author's conclusions are these: "The differences in reaction time, in general, vary directly with the intensity of illumination."

"The minimum intensity of illumination required for maximum visual efficiency in reaction time is between 10 ft. c. and 20 ft. c."

Comments as follows: "In the case of tungsten light they show that 50 ft. c. is not as good as 20 ft. c. and, with the other kinds of light, anything above 20 ft. c. is practically wasted. In fact, there is so little gain for intensities above 10 ft. c. that this may be taken as the practical minimum intensity. It must be remembered, however, that this applies to the best possible conditions for seeing, i. e., where there is maximum contrast in the objects to be seen and all hindrances to vision are eliminated. Under less perfect conditions for vision it is reasonable to assume that higher intensities may be advantageous. Further experiments of the same kind will be necessary to decide this question."

"The most remarkable fact disclosed by this research is the superiority of mercury vapor light of the proper intensity to daylight at its best. This demolishes another tradition, that daylight is the 100 per cent perfect standard light, which can never be equalled by any artificial illumination. Science has again beaten nature at her own game."—"Industrial Lighting Briefs." No. 3, Bulletin 203 of the Cooper-Hewitt Electric Company, from Martha Elliott, *American Jour. of Psychology*, January, 1922.

Industrial Lighting in Theory and Practice.—Among important paragraphs is the following: "Utilitarian, or industrial lighting, requires the following positive properties: minimum reaction time, maximum visual acuity, ease on eyes and economy of operative cost, and the following negative qualities: absence of glare, freedom from obscure and sharply outlined shadows, and a minimum number of visible light sources."—E. L. Elliott, *Electrical Review*, Oct. 1, 1921.

✣

Practical Methods for Reducing Fatigue.—This is No. 50 of the series of Safe Practices Pamphlets, compiled by the National Safety Council, Chicago. The article gives a diagram showing the factors which cause fatigue, discusses the manifestations of fatigue, and then takes up the personal or individual causes of fatigue under a large variety of headings. The article is completely illustrated and is accompanied by a short bibliography. It should be read in the original by all who are interested. Copies may be secured from the *National Safety Council*, 168 N. Michigan Ave., Chicago, Ill.

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Important Bulletins Issued by Government Departments:

Occupational Hazards and Diagnostic Signs, Bulletin 306, **U. S. Bureau of Labor Statistics,** by Louis I. Dublin and Philip Leiboff.

Effects of Exposure to Low Concentrations of CO, by R. R. Sayers, U. S. Public Health Service, Public Health Reports, Vol. 37, No. 19, May 12, 1922.

Gas Masks for Gases Met in Fighting Fires, by Fieldner, Katz and Kinney, Technical Paper 248, U. S. Bureau of Mines, August, 1921, 61 pages. This Bulletin contains an important table entitled "Poisonous Doses of Industrial Gases and Vapors in the Air," which covers 33 common industrial gases.

Official Approval of Burrell Methane Indicator, by L. C. Ilsley, Serial No. 2367, U. S. Bureau of Mines, 2½ pages.

Mercury Poisoning, by R. R. Sayers, Serial No. 2354, U. S. Bureau of Mines, 8 pages.

Determination of a Relative Comfort of Mine Working Places by Means of the Katathermometer, by D. Harrington and G. E. McElroy, Serial No. 2355, U. S. Bureau of Mines, 7 pages.

Tannic Acid Method for the Quantitative Determination of CO in the Blood, by R. R. Sayers and W. P. Yant, Serial No. 2356, U. S. Bureau of Mines, 7 pages.

Compressed Air Illness and Its Engineering Features.—Few states have legislative measures protecting the welfare of men working in compressed air. Only three states—New York, New Jersey and Pennsylvania—have any laws regulating the hours of labor and the hygienic conditions to be observed in such work. Technical Paper 285, U. S. Bureau of Mines.

Disease and Accidents are Huge Cost Factors in Coal Mining.—"The experience of one coal-mining camp in Utah during the past fall well illustrates how effective a campaign may be waged against typhoid fever. This camp has a population of about 550 persons. During the period, September 7 to November 21, 1921, 37 cases of typhoid fever developed in this camp. Practically every case pointed to evidence that the water supply of the camp was polluted. Early in the outbreak steps had been taken to install a filtration and chlorination plant to purify the water supplied the camp. As soon as the plant had been installed and put in operation the outbreak ceased and not another case has since developed."—News Letter, U. S. Bur. of Mines (received April 28, 1922).

Occupational Diseases in California.—Included in the compensation statistics of the Industrial Accident Commission of California for the calendar year 1920 are 596 cases of occupational diseases, 5 being fatal.—U. S. Labor Review, Feb., 1922, p. 118.

✣

Physical Examinations of the New York City Department of Health.—In 1920, out of the total of 2,548 employees, 1,105 men and 1,443 women, about 275 men and 1,038 women, including both field and office workers, were examined. Reports for the past six years show a greater number of cardiac impairments among women than among men, and women showed persistently higher blood pressures than men, proving, the report states, that occupation as much as sex affects this condition. Women were also found to be more subject to anemia, low weight and low

blood pressure. A number of unsuspected cases of serious diseases such as diabetes, cancer and tuberculosis, were detected and given treatment. The writer, Dr. Maud Glasgow, comments on such factors as overindulgence in tea, coffee and other stimulants, unwholesome food, worry and nerve strain, as well as untreated disease-bearing centers in the body. Heredity, age, sex and environment are other factors than occupation which bear on physical impairments. Another point of interest in connection with the fact established by several studies that the morbidity rate between 15 and 54 is higher for women than for men, is the relation of income to sickness. A study showed that the family income is the most important factor in raising or lowering morbidity and mortality.—*N. Y. Health Dept. Monthly Bulletin*, Nov., 1921.

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Tuberculosis and Its Relation to Gas Poisoning.—A special report of the Chemical Warfare Service (Office of the Medical Division) under date of May 4, 1922, extracts from the report of Lieut.-Col. H. L. Gilchrist, Chief of the Medical Division, on "the after effects of gas poisoning," certain pertinent points. Every means was adopted to obtain true and reliable information, both in this country and in Europe, on the matter under discussion. The various groups represented in the inquiry were the Veterans' Bureau, Washington, D. C., where of 1,036 applications for compensation 534 were suffering from tuberculosis, of whom 125, or 22½ per cent, attributed their condition to having been gassed. Of this number a large percentage did not inhale enough gas to require medical treatment at the time. Of another group of 30 medical officers associated with government hospitals where 16,575 cases have been sent, however, only 5 were of the opinion that there was any relationship between tuberculosis and gassing. Similarly, only 16 per cent of replies sent to the different medical associations over the United States thought there was any relationship. The British views were: "Tuberculosis does not develop more frequently in gassed victims than in other subjects"; the French: "Judging from experience, it does not seem that lung lesions caused by gassing predispose to tuberculosis"; the German: "There are few remote effects resulting from exposure to warfare gasses and German physicians . . . agree unanimously that gassing has no connection with tuberculosis"; the Swiss: "Professor Stachlin of Switzerland searched through all the chronic diseases occurring among prisoners of war interned in Switzerland and with but few exceptions could not find any suffering from the results or effects of gas poisoning."

Among conclusions drawn are the following: 1. That a large number of individuals were undoubtedly substandard in the beginning and would quite probably have broken down under any stress or strain.

2. That the generally unknown effect of warfare gases has furnished many individuals a peg upon which to hang all manner of symptoms.

3. As to the incidence of pulmonary tuberculosis resulting from exposure to gas, it would seem that it is far from convincing that gas played any particular role in this connection and it is doubtful if the incidence of lung tuberculosis among ex-service men is much greater by reason of the part that gas played.

Charts show (1) the number of casualties occurring in each division of the army participating in the war; (2) the parts of the body affected by mustard gas; (3) age-group distribution of tuberculous lesions found at autopsies; (4) a summary of opinion of 33 doctors at government hospitals in regard to the different kinds of after effects, such as upon the brain, eyes, ears, bronchi, lungs, heart, tuberculosis, asthma, neuroses, effort syndrome, etc., and (5) a similar chart summarizing the opinions of certain doctors throughout the state. The final conclusion is: "There are two elements entering into this problem—one neurasthenic, where the men were gassed, usually very slightly, and believed sincerely that this was a factor in their illness, and, second, mistaken diagnosis in many cases, especially those following influenza, in which instances of unresolved bronchi-pneumonia occurred leaving nodular patches upon which the diagnosis of tuberculosis was frequently based on X-Ray plates."

✚

League of Nations Issues Industrial Welfare Recommendations.—The League of Nations has issued a pamphlet containing the recommendations of the International Labor

Conference which were adopted in October and November, 1921. Among these recommendations are several pertaining to public health. One would take measures to insure women wage earners before and after child birth. Another would prohibit the use of white lead and sulphate of lead and of products containing these pigments in the internal painting of buildings. A third would require compulsory medical examinations for persons under eighteen years of age employed on any vessel at sea. These recommendations are presented to the various members of the International Labour Conference with the expectation that each country will endeavor to secure legislation in conformance with that proposed by the Conference.

✣

Health Supervisor of Safety Institute.—The Safety Institute of America has secured the services of Dr. Charles-Edward Amory Winslow in the capacity of health supervisor. Dr. Winslow has been interested in industrial hygiene for many years, having given the pioneer course in that subject at the Massachusetts Institute of Technology in 1908, since which time he has given part of his time to teaching and part to research, with special attention to dust in relation to tuberculosis.

✣

Effect on the Eyes of Light Used in Making Motion Pictures.—The Department Committee on the Causes and Prevention of Blindness of the Ministry of Health in Great Britain reports that transient injuries to the eyes of artists in kinematograph studios have occurred, but that there is no evidence of permanent injuries from this cause. Unscreened arc lights are in their opinion liable to cause injury by reason of the unimpeded access of ultra-violet rays to the eyes, and the danger is increased according to the proximity of the lights and the duration of exposure.

The Incorporated Association of Kinematograph Manufactures, Ltd., comprising all the film-producing firms in England, is so much impressed by the evident danger to the eyes from unscreened arc lights that it has given its assurance to the Ministry of Health that no member of the Association will permit any open arc lights to be used in its studios for general illumination without glass filters.—Seventh Annual Report of the National Committee for the Prevention of Blindness.

✣

Coal Mine Accidents.—Accidents at coal mines in the United States during June, the third month of the strike, resulted in the loss of 92 lives, according to reports received by the United States Bureau of Mines from state inspectors. Revised figures covering the present strike period show 78 fatalities in April and 79 in May. The increased number of accidents in June as compared with May was confined largely to the bituminous mines of Pennsylvania and West Virginia. Based upon a production of 22,393,000 tons of coal in June, the fatality rate for the month was 4.11 as compared with 3.89 for May, 4.94 for April of the present year and 4.03 for June, 1921.

During the first half of 1922, 829 men have been killed by accidents at coal mines as compared with 1,001 during the first six months last year, a decrease of 172 fatalities or 17 per cent. The output of coal has declined 14 per cent, the fatality rates for the two six-months periods being 4.13 for 1921 and 3.97 for 1922 per million tons.

Gas and dust explosions continue to be the only conspicuous class of accidents showing a higher fatality rate for 1922 than for the first six months last year. The increase was in explosions caused by shot and by electric arc. No single accident in June killed as many as five men. The record for 1922 to date shows 7 major disasters in which 82 lives have been lost as compared with 3 disasters and a loss of 17 lives during the first half of 1921.

Reports made to the Bureau of Mines during the past nine years (1913-1921) show that an average of 203 men have lost their lives by accidents at coal mines during June. The output of coal has averaged 47,280,000 tons, thus indicating a fatality rate of 4.29 per million tons as representative of the month of June over the 9-year period. The rate for June, 1922, while somewhat higher than that for May, was lower than the rate for April, the first month of the strike, and also lower than the average rate for June for the nine years 1913-1921.

CONVENTIONS, CONFERENCES AND MEETINGS

This calendar is published through the coöperation of the National Health Council, 370 Seventh Ave., New York City. The Council will be glad to answer promptly any written or telegraphic inquiries regarding meeting dates in order to avoid conflicts.

August 22-25, National Medical Association, Washington, D. C.

August 23-24, Medical and Surgical Clinic and Public Health Meeting of the State of Maine, Lewiston.

August 28-Sept. 2, National Safety Congress, Detroit, Mich.

September 4-9, American Chemical Society, Pittsburgh, Pa.

September 6-7, Washington State Medical Society, Tacoma.

September 8-9, State Health Officers Meeting, Seattle.

September 11-16, National Exposition of Chemical Industries, Grand Central Palace, New York City.

September 17-21, National Conference of Catholic Charities, Catholic University, Washington, D. C.

September 24-29, American Hospital Association, Million Dollar Pier, Atlantic City, N. J.

September 28-30, Northwestern Tuberculosis Conference, Reno, Nevada.

September 28-30, New England Tuberculosis Conference, Poland Springs, Me.

October 9-11, Mississippi Valley Tuberculosis Conference, Milwaukee, Wis.

October 9-11, American Red Cross, Washington, D. C.

October 9-12, Recreation Committee, Atlantic City, N. J.

October 9-13, American Society for Municipal Improvements, Cleveland, Ohio.

October 12-14, Thirteenth Annual Meeting American Child Hygiene Association, Washington, D. C.

Oct. 16-19, Fifty-First Annual Meeting, A. P. H. A., Hotel Statler, Cleveland, Ohio.

October 16-19, Kentucky State Medical Association, Paducah.

October 16-18, American Dietitians Association, Washington.

October 18-20, American Association Railway Surgeons, Chicago.

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For further information write to Professor S. C. Prescott, Head of the Department of Biology and Public Health, M. I. T., Cambridge, Massachusetts.

October 23-27, American College of Surgeons.

November 1-4, National Association Practical Refrigerating Engineers, St. Louis, Mo.

Nov. 14-16, New York State Conference of Charities and Corrections, Albany, N. Y.

Foreign Meetings:

December 18-23, International Congress on Health Education, Paris.

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Sanitary Dangers of Powder Puffs.—Streptococcus viridans, an organism found in a number of cultures from women's powder puffs, is associated with sore throats. Its discovery indicates, authorities say, the possibility of the existence of hemolytic streptococci or other pathogenic bacteria on the powder puffs. Hemolytic streptococci cause the most severe form of sore throat, tonsilitis, and are associated with heart lesions and kidney lesions. Among other findings were staphylococci, numerous spore-formers, molds, and other bacteria.—*Michigan Health News Service.*

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